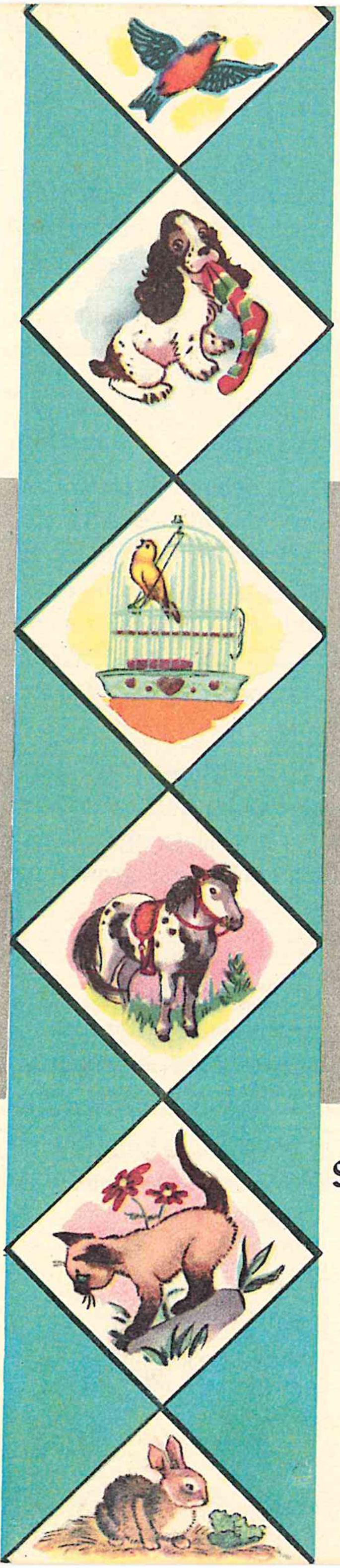
Making Sure of Arithmetic

Grade 3
(Revised 1952 Edition)



Robert Lee Morton • Merle Gray
Elizabeth Springstun • William L. Schaaf

Making Sure of Arithmetic

SILVER BURDETT COMPANY
New York Chicago Dallas San Francisco

Grade 3
(Revised 1952 Edition)

FOREWORD

In preparing the New Edition of MAKING SURE OF ARITHMETIC, the goal has been to keep this series the finest learning tool in the field. Each book has been extensively revised, redesigned, and completely reillustrated.

As in the earlier edition, first attention is given to the way the child learns. How can we give him the security of understanding which he needs and wants? How can we help him develop a sense of sureness and confidence in his own everyday uses of arithmetic?

The authors of MAKING SURE OF ARITHMETIC believe these things can be done only by the most careful development of each new idea; by immediately providing rich and extensive experience in using the idea; by maintaining skill and facility in using it; by constantly calling attention to relationships; and perhaps most important of all, by recognizing that the child does not learn "all at once" but must be consistently given the opportunity to re-learn and to deepen understanding.

This means re-teaching the basic ideas of arithmetic at each grade level. It means the maintaining, enriching, and extending of earlier learnings as well as the beginning of new learnings. Only in this way can we make sure of the child's continuous growth in understanding and skill.

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CONTENTS

Learning Addition and Subtraction with the Easier Facts 1–60

Learning the Meaning of Numbers and Fractions. . 61–73

Learning Addition and Subtraction with the Harder Facts 74–128

Learning Addition and Subtraction with Zeros . . 129–148

Making Sure of What You Have Learned 149–156

Learning Higher-Decade Addition 157–203

Learning to Add and Subtract with Larger Numbers . 204–220

Learning to Add and Subtract with Carrying and Borrowing 221–264

Learning Multiplication and Division with the Easier Facts 265–300

Learning to Use Fractions 301–306

Learning to Multiply and Divide Larger Numbers . 307–334

Making Sure of What You Have Learned 335–343

INDEX 344–346

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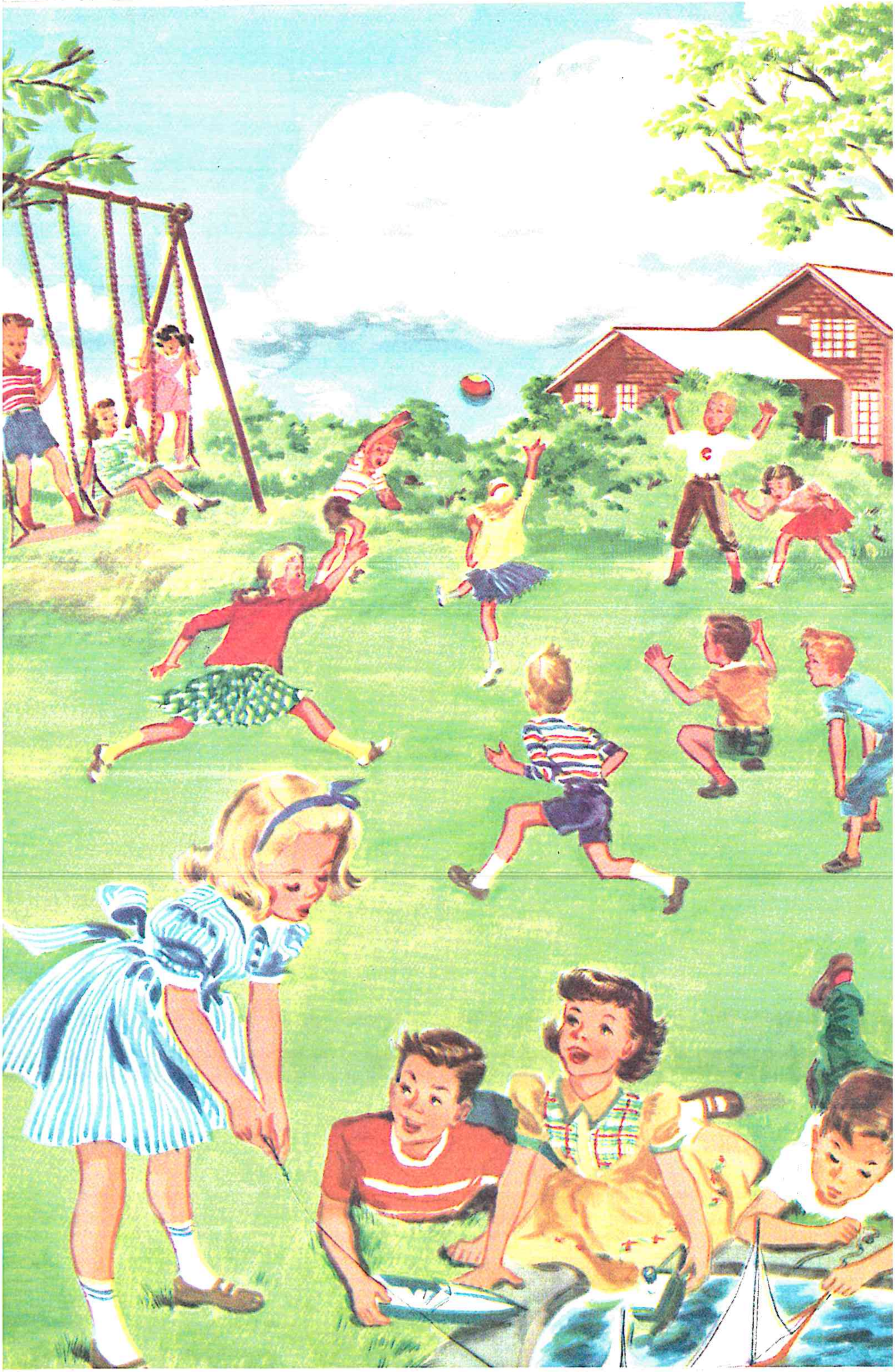


PLAYING GAMES

Look at the children in the picture.

1. Some of the children are on the swings. How many are in this group?

2. Find the children who are playing with boats. How many are in this group?

3. Some of the children are playing ball. How many are in this group?

4. How many boys are playing ball?

5. Count all the girls who are playing in the park.

6. How many boys are playing in the park?

FINDING GROUPS OF KITTENS

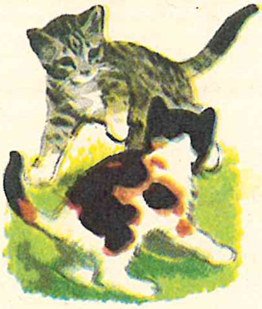
Which picture below shows 2 kittens together?

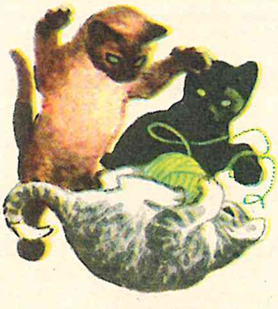
Which picture shows 3 kittens together?

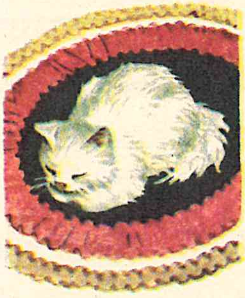
Find the picture which shows only one kitten.

▶ There are two or more things in a **group.** To make a group, the two or more things must be **together.**

Which pictures show groups of kittens?

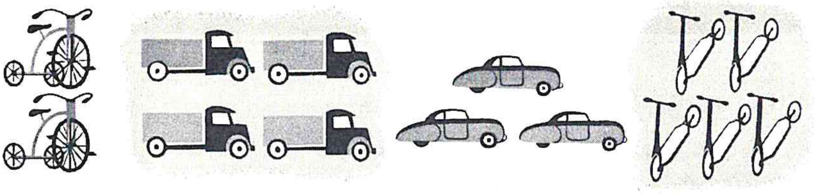






HOW MANY DO YOU SEE?

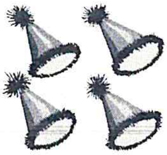
You can often tell how many things are in a group without counting. Look at the groups of things in these pictures. Can you tell how many are in each group without counting?



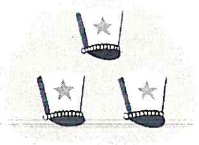
HOW MANY HATS ARE IN EACH GROUP?

Here are pictures of the paper hats Jane, Tom, Susan, and John made for a party. Look at the groups of hats and answer each question below.

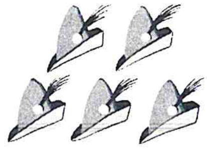
JANE'S HATS



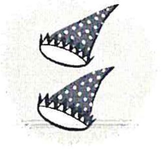
TOM'S HATS



SUSAN'S HATS



JOHN'S HATS



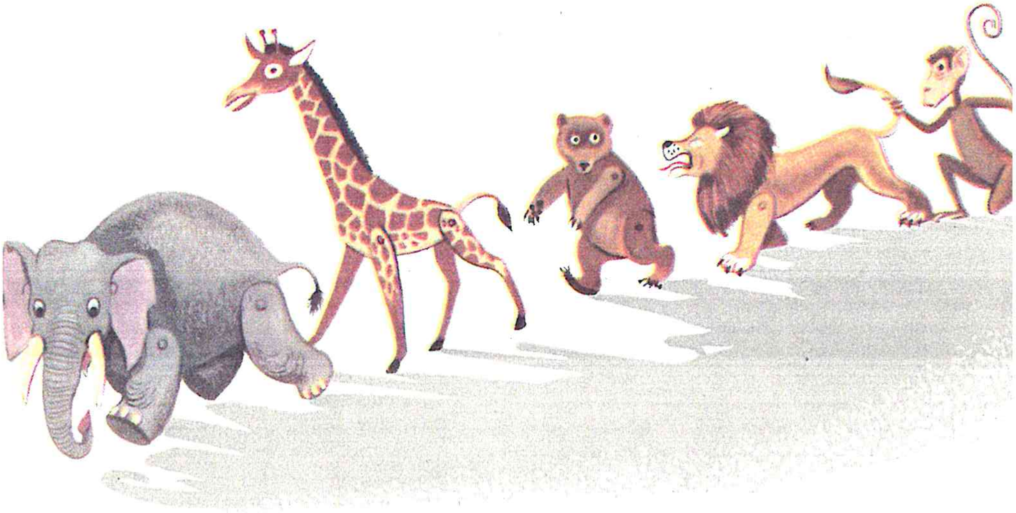
1. Whose group has 3 hats?
2. Whose group has 2 hats?
3. Whose group has 5 hats?
4. Whose group has 4 hats?
5. Did Susan make more hats than John?
6. Did Tom make more hats than Jane?
7. Who made the most hats?

WRITING NUMBERS

Write the numbers from 1 to 10 down the side of your paper. Make them like those below. The arrow (→) shows where to begin. The dotted line shows which part to make last.

Write each number word beside its number.

one	one	1	1
two	two	2	2
three	three	3	3
four	four	4	4
five	five	5	5
six	six	6	6
seven	seven	7	7
eight	eight	8	8
nine	nine	9	9
ten	ten	10	10



THE TOY PARADE

The picture shows the animal parade that some children made for their toy circus.

1. The toy elephant is at the left in the picture. Which animal is at the right?

2. The animals are marching toward the left. Which animal is leading the parade?

3. Is the elephant first in the parade?

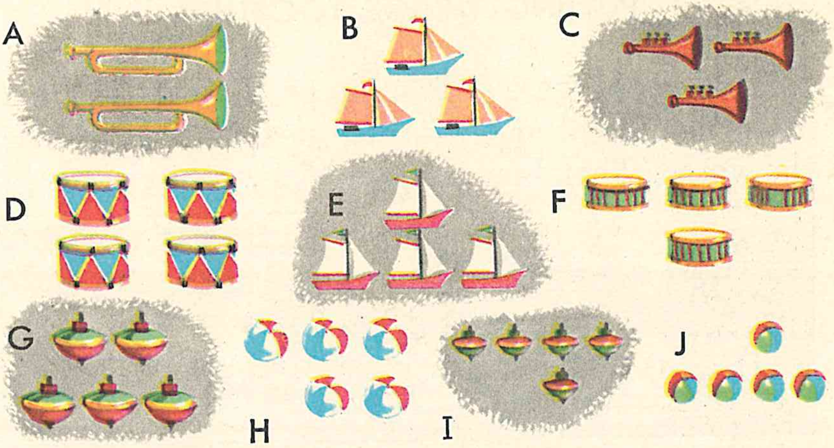
4. Which animal is second? Which is third?

5. Which animal is fourth? Which is fifth?

6. Tell which of these number words you would use in the blanks below: **second, third, fourth, fifth.**

   A. The lion is __?__ in the parade.
   B. The giraffe is __?__ in the parade.
   C. The monkey is __?__ in the parade.
   D. The bear is __?__ in the parade.

7. Copy these number words: **first, second, third, fourth, fifth.**



GROUPS OF TOYS

1. Find the group that has a row of 2 tops and a row of 3 tops. How many tops are in the group?

2. One group has a row of 3 balls and a row of 2 balls. How many balls are in that group?

3. One group has 2 drums and 2 drums. How many drums are in that group?

4. Find the group that has 1 horn and 1 horn. How many horns are in that group?

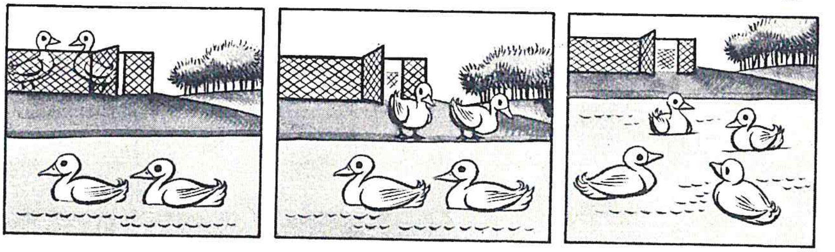
5. Find the group that has 1 boat and 3 boats. Find the group that has 3 drums and 1 drum. How many toys are in each of these groups?

6. Find the group that has 1 ball and 4 balls. Find the group that has 4 tops and 1 top. How many toys are in each of these groups?

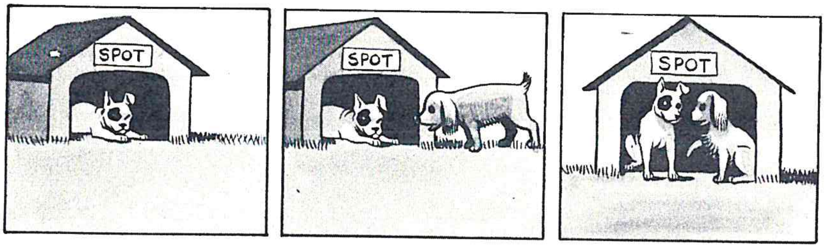
7. Find the group that has 1 boat and 2 boats. Find the group that has 2 horns and 1 horn. How many toys are in each of these groups?

PUTTING THINGS TOGETHER

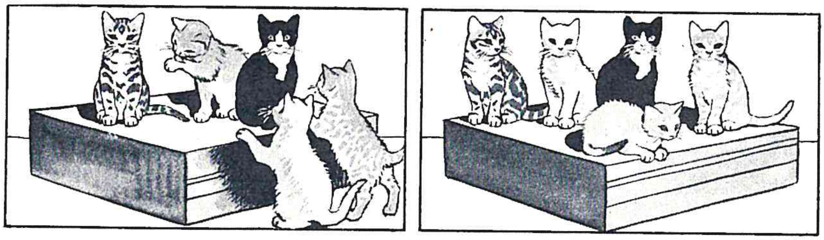
1. Two ducks were swimming on a pond. Soon 2 more ducks got out of their pen and went into the water. Then how many ducks were swimming?



2. One day Spot was sleeping in his doghouse. Another puppy saw Spot sleeping. He went into the doghouse, too. How many puppies were in the doghouse then?



3. Three kittens were on a box. Two more kittens climbed up on the box. How many kittens were on the box then?

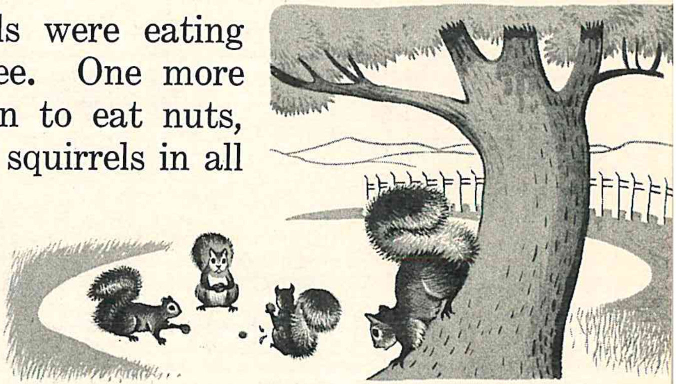


FINDING HOW MANY IN ALL

1. Two robins were eating crumbs on the ground. One more robin flew down to eat crumbs, too. Then how many robins were eating?

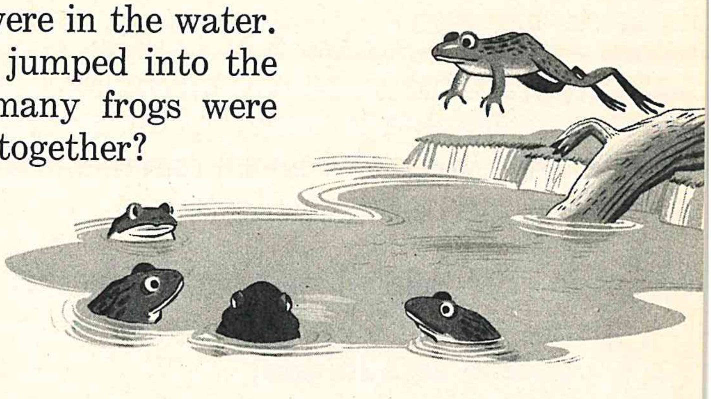
2 robins
1 robin
? robins

2. Three squirrels were eating nuts under a tree. One more squirrel ran down to eat nuts, too. How many squirrels in all were eating?



3 squirrels
1 squirrel
? squirrels

3. Four frogs were in the water. One more frog jumped into the water. How many frogs were in the water altogether?



4 frogs
1 frog
? frogs

LEARNING WHAT ADDITION IS

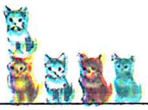
How many dogs are in this group?
How many dogs are in this group?
When you put the groups together, how many dogs are there?

2
2
? dogs

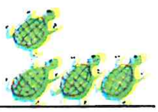
The pictures below show how groups are made by putting things together. Tell how many there are in each group. Say, "1 duck and 2 ducks are 3 ducks." The answer to Example **A** is 3 ducks.

A. 1
2
? ducks

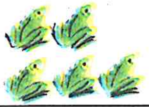
B. 1
4
? kittens



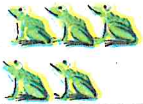
C. 1
3
? turtles



D. 2
3
? frogs



E. 3
2
? frogs



Look at Example **D.** Think, "2 frogs and 3 frogs are 5 frogs." Look at Example **E.** How many are 3 frogs and 2 frogs? You get the same answer when you put 2 and 3 together that you get when you put 3 and 2 together.

▶ You **add** when you put together things that are alike and find how many there are. We call this **adding** or **addition.**

MORE ABOUT ADDING

Add the numbers in these examples. Look at the top number. Then look at the bottom number. How many are there when you think them together?

1.

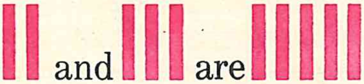
2 airplanes	2 birds	1 bird	1 rabbit
2 airplanes	1 bird	2 birds	1 rabbit
? airplanes	? birds	? birds	? rabbits

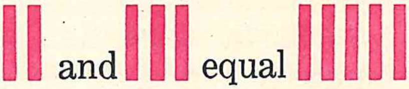
	A	B	C	D	E	F	G	H	I	J
2.	2	1	2	1	3	2	3	1	4	1
	2	1	1	2	2	3	1	3	1	4

▶ Some other ways to write addition examples are: 2 and 2 are 4; or 2 and 2 equal 4. **Equal** means "are the same as." Then 2 and 2 together are the same as 4.

Here are two ways to write the same example:

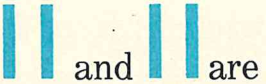
2 and 3 are 5. 2 and 3 equal 5.





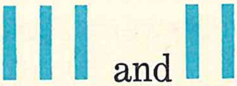
3. What do these groups equal together?

A.



are ?

B.



equal ?

4. Think these numbers together:

A. 3 and 2 are ? C. 4 and 1 equal ?

B. 1 and 4 are ? D. 3 and 1 equal ?

CHOOSING THE RIGHT WORDS

Write the word **Arithmetic** on the first line of your paper. Write the numbers 1, 2, and 3 on the second, third, and fourth lines.

Choose the right word or group of words for each blank. Write the words on your paper beside the numbers 1, 2, and 3.

1. The word "equal" means ?. (many, are the same as, more)

2. When you put together things that are alike and find how many there are, you are ?. (reading, counting, adding)

3. The word "group" means ?. (one thing, two or more things together, many things that are not together)

4. Copy these numbers down the side of your paper. Write the number word beside each number.

8 1 7 5 9 3 6 4 2 10

Look at page 3. Did you write all of the numbers and spell the number words correctly? If not, write again any that you missed.

5. Copy these examples, and add. If you do not know the answers, look again at page 7, 8, or 9.

A	B	C	D	E	F	G	H	I	J
2	1	3	1	2	1	3	1	4	2
1	3	2	4	2	1	1	2	1	3

LEARNING TO SOLVE PROBLEMS

1. James had 3 marbles. He found 2 more. How many marbles did he have altogether?

This problem tells us that James had 3 marbles and found 2 more. It asks us how many marbles he had altogether. To solve the problem, we add 3 and 2 and think 5. The answer is, "James had 5 marbles altogether." Write 5.

▶ A **problem** always tells us something and asks a question. To **solve** a problem we use what the problem tells us to find the answer to the question.

Read each problem below. Find what it tells and what the question asks. Write the answer on your paper beside the number of the problem. What you write must answer the question in the problem.

2. Alan saw 2 wild ducks. Then he saw 2 more. How many wild ducks did he see altogether?

3. One car was in the parking lot. Four more drove in. How many cars were in the lot then?

4. Tom was flying his kite. Three more boys came to fly kites, too. How many boys were flying kites then?

5. Mary was making candy. Helen came to help her. How many girls were making candy?

6. John had 2 tops. Father gave him 3 more. How many tops did John have in all?

ADDING GROUPS OF THINGS

These pictures show how things are added. When we add ★★★★ to ★★ we have ★★★★★★

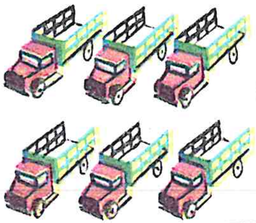
Is ★★★★★★ a larger group than ★★?

Is ★★★★★★ a larger group than ★★★★?

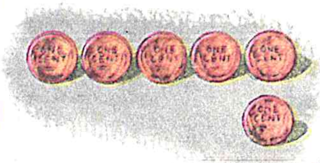
▶ We always have a larger group when we put two groups together, or when we add one to a group. The larger group is equal to the number of things there are altogether.

▶ When we add, the answer is called the sum. It tells how many there are altogether.

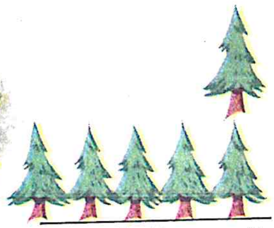
Add the things that are alike. Tell how many there are when you put them together.



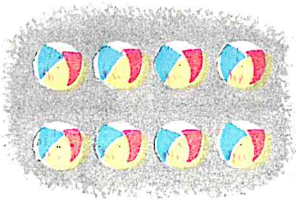
3 and 3 are 6.



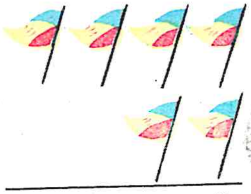
5 and 1 equal 6.



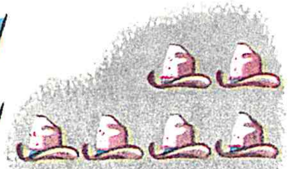
1 and 5 are 6.



4 and 4 equal 8.



4 and 2 are 6.



2 and 4 equal 6.

ADDING NUMBERS

1. Tell how many there are altogether.

A. 3 trucks and 3 trucks are ? trucks.
B. 5 cents and 1 cent are ? cents.
C. 1 tree and 5 trees are ? trees.
D. 4 balls and 4 balls are ? balls.
E. 4 flags and 2 flags are ? flags.
F. 2 hats and 4 hats are ? hats.

2. Tell what these numbers equal when you add them. If you make any mistakes, study page 12. Learn the examples with their sums.

A. 5 and 1 equal ?
B. 4 and 4 equal ?
C. 4 and 2 equal ?
D. 3 and 3 equal ?
E. 2 and 4 equal ?
F. 1 and 5 equal ?

3. Read these problems. Think what the questions ask. What are the answers?

A. Three girls and three boys were playing. How many children were playing together?

B. Mary has 4 large dolls and 2 small ones. How many dolls has Mary altogether?

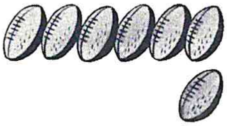
4. Copy these examples on a piece of paper. Be careful to write one number exactly under the other. Add, and write the sums.

A	B	C	D	E	F	G	H	I	J
1	3	1	2	5	4	3	1	4	3
4	3	3	4	1	4	2	5	2	1

ADDING THINGS THAT ARE ALIKE

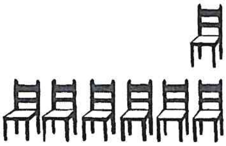
Add the things that are alike, and say the sums.

A



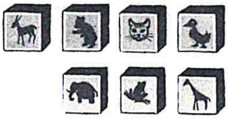
6 and 1 are 7.

B



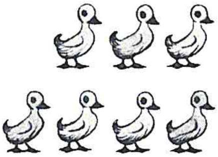
1 and 6 are 7.

C



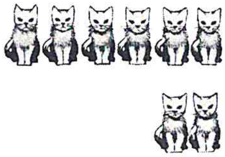
4 and 3 equal 7.

D



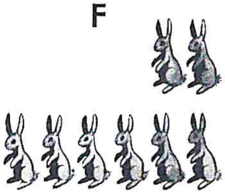
3 and 4 equal 7.

E



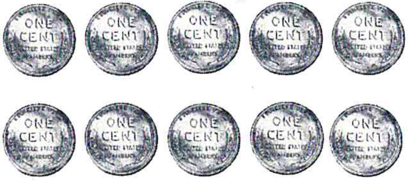
6 and 2 are 8.

F



2 and 6 are 8.

G



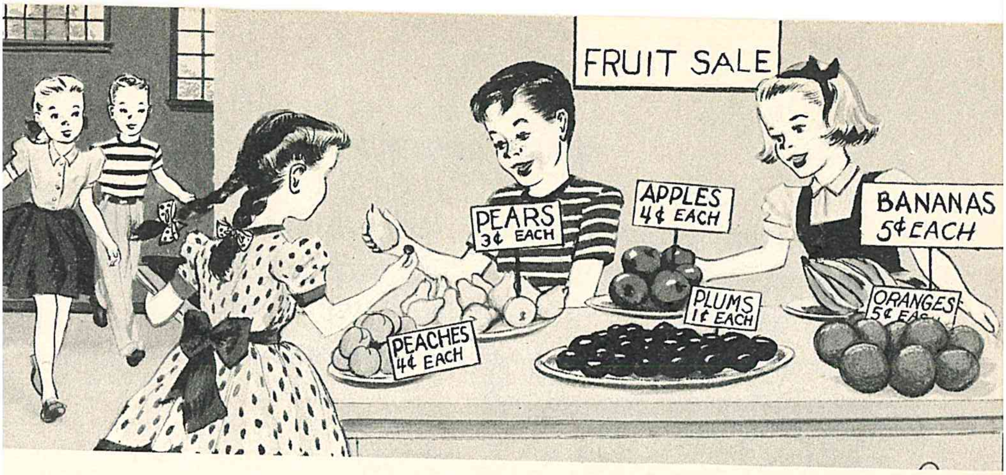
5 and 5 equal 10.

Copy the examples on this page with their sums, this way: ⟶

Before you write the sum for Example **G**, look at the number 10. It has two parts. See where the 1 and 0 in the answer are placed. The 0 (zero) must be exactly under the 5. When you write the 1, leave space to put the 0 exactly under the 5.

$$\begin{array}{r} \text{A} \\ 6 \\ 1 \\ \hline 7 \end{array} \qquad \begin{array}{r} \text{G} \\ 5 \\ 5 \\ \hline 10 \end{array}$$

Study the examples and learn their sums.



THE FRUIT SALE

The children had a fruit sale to earn money to buy a new ball. They put up cards to show how much each kind of fruit cost. They used the **cent sign** (¢) to show cents or pennies.

1. How much did each of these children spend?

JOHN		MARY		JUDY	
a plum	1¢	an apple	4¢	a banana	5¢
an orange	5¢	a peach	4¢	an orange	5¢

JAMES		BILLY		SUSAN	
a peach	4¢	a banana	5¢	a pear	3¢
a pear	3¢	a plum	1¢	an apple	4¢

2. Copy each of the examples below. Look at the top number. Then look at the bottom number. Think how many cents there are altogether. Write the sums. Put the cent sign after each sum.

A	B	C	D	E	F	G	H
2¢	6¢	2¢	3¢	1¢	4¢	2¢	6¢
6¢	1¢	4¢	3¢	6¢	2¢	3¢	2¢

MORE ADDITION

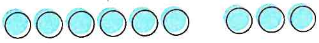
In each example below, look at the top number and then look at the bottom number. Think the sum and say it. The pictures will help you. Do you see that in each group the sums of the two examples are the same?

A. ☆☆☆☆☆☆☆☆ 8   1 ☆
☆ 1   8 ☆☆☆☆☆☆☆☆
☆☆☆☆☆☆☆☆☆ 9   9 ☆☆☆☆☆☆☆☆☆

B.

7   1
1   7

C.

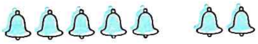


6   3
3   6

D.

9   1
1   9

E.

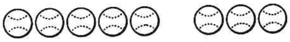


5   2
2   5

F.

7   2
2   7

G.



5   3
3   5

1. Copy the examples above and write the sums. Remember to put the zero in the right place when the sum is 10. Learn the examples with their sums.

2. Copy the examples below. Write the sums.

A	B	C	D	E	F	G	H	I	J
5	4	6	2	2	1	3	1	5	6
1	3	1	6	4	5	4	6	5	2

THE TOY SHOP

Tom and Susan saw many toys in the toy shop. They added to find how many toys there were.

1. They saw 5 balls in a box and 2 on a table. How many balls were there altogether?

2. Six airplanes were on a shelf and 2 were on a table. How many airplanes were there?

3. Six dolls were on the shelves. One doll was in a doll carriage. How many dolls were there?

4. There were 2 tops in one box and 5 tops in another box. How many tops were there?

5. Two cars were on a shelf. Seven cars were on a table. How many cars were there altogether?

6. Copy the examples below and write the sums. Where do you write the zero when the sum is 10?

A	B	C	D	E	F	G	H	I	J
6	5	1	2	9	1	5	2	3	7
2	3	8	6	1	6	5	7	6	1

MORE PROBLEMS ABOUT TOYS

Read each problem below. Think what the problem tells you and what the question asks. When you know the answer, write it. What you write must answer the question that is asked.

1. John has 3 red tops and 5 green ones. How many tops does he have in all?

2. Judy has 6 girl dolls and 3 boy dolls. How many dolls has she altogether?

3. Jane spent 7 cents for dishes and 2 cents for shoes for her doll. How much did she spend?

4. Billy bought 8 marbles. Alan gave him 1 more. How many marbles does he have now?

5. Tom has 1 red car and 7 black cars. How many cars does he have altogether?

▶ When we add the numbers 5 and 5 the sum is always 10. When we add 4 and 2 the sum is always 6. Something that is always true is a **fact.** So we call these facts **addition facts.**

6. Copy the examples below. Add, and write the sums. The examples with their correct sums are addition facts.

A	B	C	D	E	F	G	H	I	J
1	2	7	5	2	1	4	5	9	3
9	5	1	3	7	8	3	2	1	6

MATCHING WORDS AND MEANINGS

Look at the words on the left side of the page. Their meanings are on the right side. Number **1** matches **B** because an addition fact is an example with its sum. Match the others and read them.

1. An addition fact	**A.** means "put together and tell how many there are."
2. Equal	**B.** is an addition example with its sum.
3. Add	**C.** means "are the same as."

Choose the right word for each blank below.

4. When we put two or more things together, we have a ___?___. (penny, group, only one)
5. The sign ¢ means ___?___. (add, equal, cent)
6. Ten pennies equal 10 ___?___. (zeros, cents, sums)
7. The answer we get when we add is ___?___. (an example, the sum, a fact)

USING THE SIGN FOR ADDITION

Sometimes we use the **plus sign** (+). It tells us to add. In this example the plus sign tells us to add 3 and 5.

$$\begin{array}{r}3\\+5\\\hline\end{array}$$

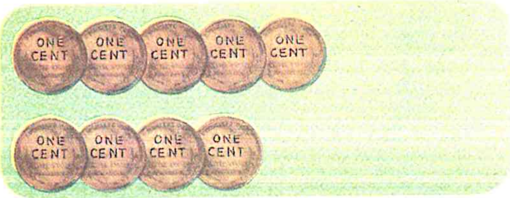
Copy these examples and do what the sign tells you to do.

A	B	C	D	E	F	G	H
1	6	7	8	5	3	1	3
+9	+3	+2	+1	+3	+4	+7	+6

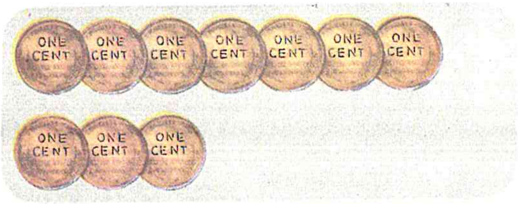
PENNIES AND DIMES

Billy had ten pennies. Judy had a dime. Billy said, "A dime is worth the same as ten pennies. But I like to hear the pennies jingle in my bank."

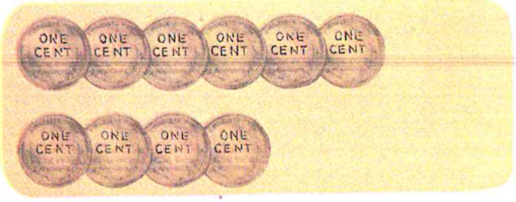
These children are saving pennies, too. How many does each child have? Which of the children have enough pennies to equal a dime?



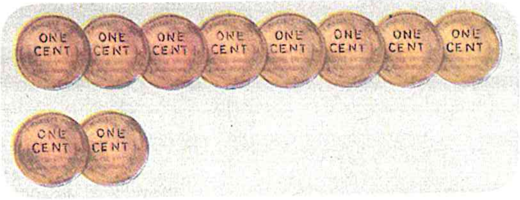
HELEN	MARY
5	4
4	5
9	9



JOHN	TOM
7	3
3	7
10	10



JANE	ALAN
6	4
4	6
10	10



SUSAN	JAMES
8	2
2	8
10	10

Copy and learn the eight addition facts above.

ADDING CENTS

1. Tell how many cents or pennies there are.

2 pennies	4 cents	5 ¢	7 pennies
+8 pennies	+6 cents	+4 ¢	+3 pennies
10? pennies	10? cents	9? ¢	10? pennies
4 cents	3 ¢	8 pennies	6 cents
+5 cents	+7 ¢	+2 pennies	+4 cents
9? cents	10? ¢	10? pennies	10? cents

2. You have seen that we can write cents or pennies in different ways. Read each problem below. Then write the answer to the question it asks.

A. A marble costs 1 cent. A car costs 9 cents. How much do they cost altogether?

B. Tom had 5 pennies. He earned 3 more. How many pennies did he have in all?

C. Jane bought a 3¢ stamp and a 6¢ stamp. How much did the stamps cost altogether?

D. Mary bought an apple for 2¢ and some grapes for 6¢. How much did she spend?

Copy each example below. Do what the sign tells you to do.

	A	B	C	D	E	F	G	H	I	J
3.	1	2	4	5	7	8	6	3	4	8
	+7	+8	+6	+4	+3	+1	+4	+7	+5	+2
4.	5	3	7	5	3	2	4	6	1	3
	+2	+4	+1	+3	+6	+5	+3	+3	+8	+5

MAKING SURE OF ADDITION FACTS

Ask someone to hear you say the sums for the examples below. If you miss any, find what the sums should be. Write the facts you miss and learn them.

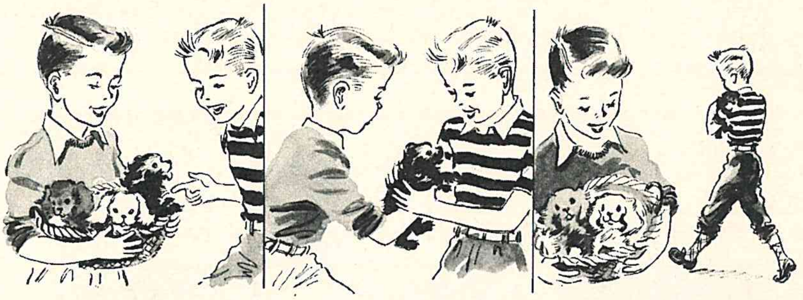
	A	B	C	D	E	F	G	H	I
1.	4 +4	1 +2	2 +8	5 +2	1 +6	3 +4	7 +2	2 +1	4 +2
2.	3 +2	7 +1	2 +4	8 +2	3 +7	1 +3	3 +3	5 +3	1 +5
3.	1 +8	4 +6	1 +1	9 +1	4 +1	6 +2	5 +5	2 +7	3 +1
4.	7 +3	2 +5	4 +3	6 +4	2 +6	5 +1	1 +7	3 +6	2 +3
5.	8 +1	6 +3	1 +4	5 +4	1 +9	2 +2	3 +5	6 +1	4 +5

THINK AND ANSWER

1. Which is more, a dime or 9 pennies?
2. Which is most, 7 cents, 2 cents, or 4 cents?
3. Is 8 more than 6? Is 9 less than 7?
4. Which group is larger, 7 boys or 3 boys?
5. Which group is smaller, 8 tops or 5 tops?

LOOKING AT PICTURE STORIES

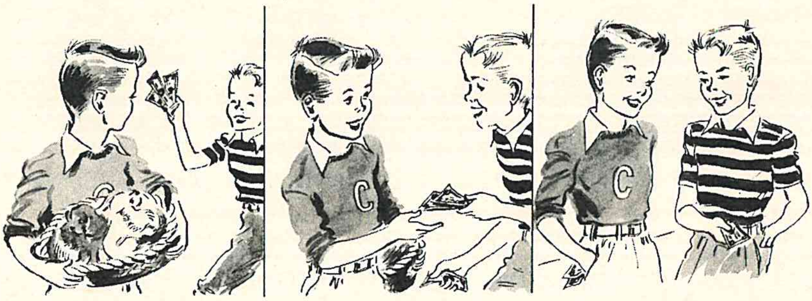
1. John had 3 puppies. He sold 1 to Tom. How many puppies did John have left?



3 puppies 1 puppy sold 2 puppies left

How many are left when you take 1 from 3?

2. Tom had 3 dollars. He gave John 2 dollars for the puppy. How many dollars did Tom have left?



3 dollars 2 dollars spent 1 dollar left

How many are left when you take 2 from 3?

▶ You **subtract** when you take one or more than one from a group and find how many are left. We call this **subtracting** or **subtraction.**

SUBTRACTION STORIES

Here are some subtraction stories. Subtract and tell how many are left.

▶ When we subtract, the answer is called the **remainder.** It tells how many are left.

1. Four frogs were sitting on a log. One frog hopped away. How many were left on the log?

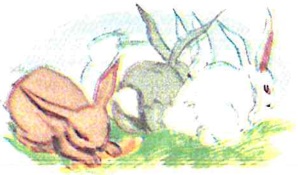
4 frogs

1 hopped away

3 ? frogs left

2. Four rabbits were playing in the grass. Three rabbits ran away. How many were left playing?

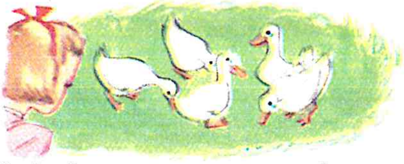
4 rabbits



3 ran away

1 ? rabbit left

3. Jane had 5 pet ducks. One day 2 of the ducks ran away. How many ducks did Jane have left?



5 ducks

2 ran away

? 3 ducks left

4. Billy had 5 toy cars. He gave 3 cars to Alan. How many cars did Billy have left?

5 cars

3 given to Alan

2 ? cars left

5. Alan had 5 toy trucks. He gave 4 of them to Billy. How many trucks did Alan have left?

5 trucks

4 given to Billy

1 ? truck left

6. Judy had 5 doll hats. She gave 1 hat to Jane. How many hats did Judy have left?

5 hats

1 given to Jane

4 ? hats left

USING THE SIGN FOR SUBTRACTION

We can subtract one number from another without pictures of the groups. Numbers stand for groups.

This is the **minus sign** (–). It tells you to subtract the smaller number from the larger number. In this example, the sign tells you to subtract 3 from 5.

$$\begin{array}{rl} 5 & \text{larger number} \\ -3 & \text{smaller number} \\ \hline 2 & \text{remainder} \end{array}$$

When we read the example with its answer we say, "3 from 5 is 2." What is the answer called? What does it tell?

1. Read the subtraction examples below with their remainders. For the first example say, "1 from 3 is 2." What will you say for the next example?

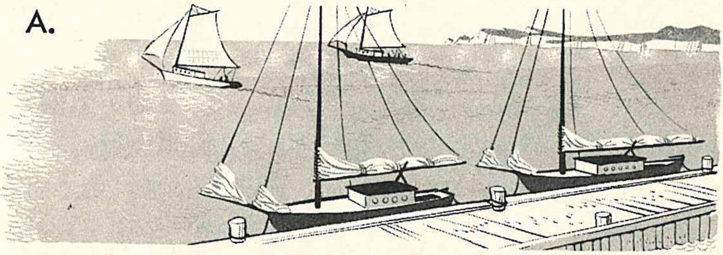
$$\begin{array}{cccccccc} \text{A} & \text{B} & \text{C} & \text{D} & \text{E} & \text{F} & \text{G} & \text{H} \\ 3 & 3 & 4 & 4 & 5 & 5 & 5 & 5 \\ -1 & -2 & -1 & -3 & -2 & -3 & -1 & -4 \\ \hline 2 & 1 & 3 & 1 & 3 & 2 & 4 & 1 \end{array}$$

▶ When you subtract 1 from 3, the remainder is always 2. Something that is always true is a fact. It is always true that 1 from 3 is 2. So it is a **subtraction fact.**

2. The subtraction examples above with their remainders are subtraction facts. Copy them with their signs. **Learn the facts.**

3. Say the remainder for each subtraction example below. Remember to subtract the smaller number from the larger number.

A.



$$\begin{array}{r}4\\-2\\\hline 2\end{array}$$

2 boats from 4 boats equals ? boats.

B.

$$\begin{array}{r}2\\-1\\\hline 1\end{array}$$

1 airplane from 2 airplanes equals ?1 airplane.

4. Look at Example **A** below. Which is larger, the 1 or the 3? In Example **B**, which is larger, the 2 or the 4? Tell which is larger in the other examples.

A. 1 from 3 equals?	**D.** 1 from 2 equals?
B. 2 from 4 equals?	**E.** 4 from 5 equals?
C. 1 from 5 equals?	**F.** 1 from 4 equals?

5. Write each example above. Put the larger number at the top. Write the first example as shown at the right. Be sure to use the minus sign. Subtract, and write the answer. What is the answer called?

A

$$\begin{array}{r}3\\-1\\\hline\end{array}$$

USING THE EQUAL SIGN

We have learned that this subtraction example may be read, "2 from 5 equals 3."

$$\begin{array}{r} 5 \\ -2 \\ \hline 3 \end{array}$$

▶ The word equals means "is equal to," or "is the same as." We may use the **equal sign** (=) instead of the word "equals." When we see the sign = in an example, we call it "equal" or "equals."

Read these examples with their remainders. Say, "4 from 5 equals 1," "1 from 5 equals 4," and so on.

$$\begin{array}{r} 5 \\ -4 \\ \hline 1 \end{array} \quad \begin{array}{r} 5 \\ -1 \\ \hline 4 \end{array} \quad \begin{array}{r} 4 \\ -2 \\ \hline 2 \end{array} \quad \begin{array}{r} 2 \\ -1 \\ \hline 1 \end{array} \quad \begin{array}{r} 3 \\ -2 \\ \hline 1 \end{array} \quad \begin{array}{r} 3 \\ -1 \\ \hline 2 \end{array} \quad \begin{array}{r} 5 \\ -3 \\ \hline 2 \end{array} \quad \begin{array}{r} 5 \\ -2 \\ \hline 3 \end{array}$$

Copy the examples below. Put one number under the other. Be sure to put the larger number at the top. Use the minus sign. Write the remainders.

	A	B
1.	1 from 3 = ?	1 from 5 = ?
2.	2 from 4 = ?	1 from 2 = ?
3.	4 from 5 = ?	1 from 4 = ?
4.	2 from 3 = ?	3 from 5 = ?
5.	3 from 4 = ?	2 from 5 = ?

$$\begin{array}{r} 3 \\ -1 \\ \hline 2 \end{array} \quad \begin{array}{r} 5 \\ -4 \\ \hline 1 \end{array}$$

LEARNING TO SOLVE PROBLEMS

Sometimes you can decide how to solve a problem by thinking what happens in the problem. You must also think what the question asks.

Read each of the problems below. Think, "What happened? What does the question ask?" Decide what to do to find the answer to the question.

Write the answer on your paper beside the number of the problem. What you write must answer the question asked in the problem.

1. Four marbles were in the ring. James shot 2 out. Then how many marbles were in the ring?

How many marbles did James put in the ring? What happened to some of them? How many marbles were left in the ring?

2. Three pandas were in a pen at the zoo. A man took 1 panda away. Then how many pandas were in the pen?

3. Four kittens were asleep in a basket. One kitten woke up and climbed out. Then how many were in the basket?

4. Helen had 5 pennies. She spent 4 pennies for candy. How many pennies did Helen have left?

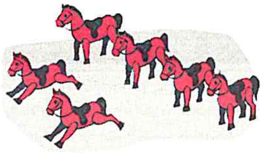
5. Susan's 5 dolls were in bed. She took 3 of them out. Then how many dolls were in bed?

FINDING REMAINDERS

The pictures show how many are left when one or more is taken from a larger group. Make problems about them and say the remainders.

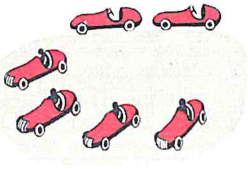
A.

$$\begin{array}{r}6\\-2\\\hline\end{array}$$



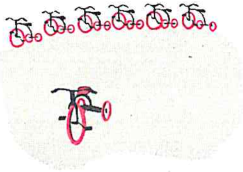
B.

$$\begin{array}{r}6\\-4\\\hline\end{array}$$



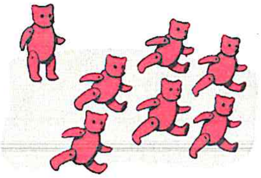
C.

$$\begin{array}{r}7\\-1\\\hline\end{array}$$



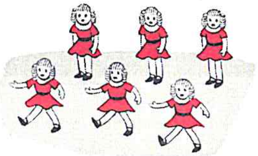
D.

$$\begin{array}{r}7\\-6\\\hline\end{array}$$



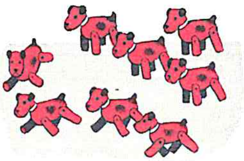
E.

$$\begin{array}{r}6\\-3\\\hline\end{array}$$



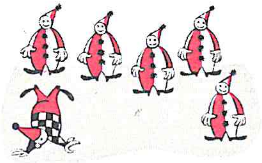
F.

$$\begin{array}{r}8\\-4\\\hline\end{array}$$



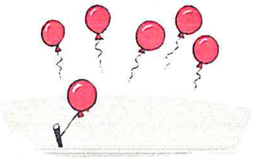
G.

$$\begin{array}{r}6\\-1\\\hline\end{array}$$



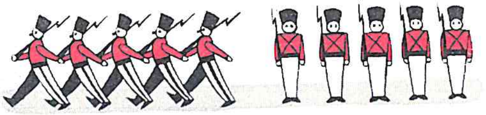
H.

$$\begin{array}{r}6\\-5\\\hline\end{array}$$



I.

$$\begin{array}{r}10\\-5\\\hline\end{array}$$



Copy the examples on this page. Subtract, and write the remainders. When you copy the last example, put the 5 exactly under the 0. Then write the remainder under the 5 above the line. **Learn the facts.**

I

$$\begin{array}{r}10\\-5\\\hline 5\end{array}$$

FINDING HOW MANY MORE

1. Tell which is more:

6 cents or 4 cents
10 apples or 5 apples
6 dolls or 1 doll
7 flags or 6 flags

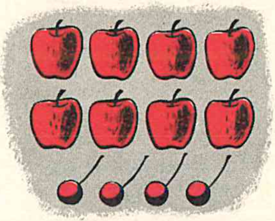
2. Answer these questions:

6 birds are how many more than 3 birds?
6 frogs are how many more than 5 frogs?
10 cents are how many more than 5 cents?

3. Read the problems below. Subtract the smaller number from the larger number to find how many more there are in the larger number. Say the answers to the questions.

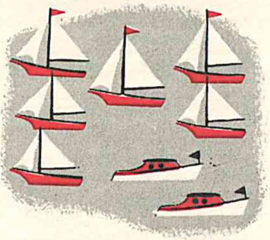
A. Tom has 8 apples and 4 cherries. He has how many more apples than cherries?

$$\begin{array}{r} 8 \\ -4 \\ \hline \end{array}$$



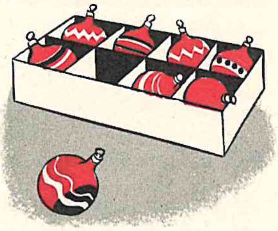
B. Six sailboats and 2 motorboats were in the water. How many more sailboats than motorboats were there?

$$\begin{array}{r} 6 \\ -2 \\ \hline \end{array}$$



C. Seven balls were in a box. One was on the table. How many more balls were in the box than on the table?

$$\begin{array}{r} 7 \\ -1 \\ \hline \end{array}$$



MAKING SURE THAT YOU KNOW

Copy these examples. Subtract, and write the remainders. Do not guess. If you do not know the remainders, study again the pages given at the right of the rows.

Learn the facts that you do not know.

1. $\begin{array}{r}3\\-1\\\hline 2\end{array}$ $\begin{array}{r}4\\-3\\\hline 1\end{array}$ $\begin{array}{r}5\\-2\\\hline 3\end{array}$ $\begin{array}{r}3\\-2\\\hline 1\end{array}$ $\begin{array}{r}5\\-3\\\hline 2\end{array}$ $\begin{array}{r}4\\-1\\\hline 3\end{array}$ **23 24 25**

2. $\begin{array}{r}5\\-4\\\hline 1\end{array}$ $\begin{array}{r}4\\-2\\\hline 2\end{array}$ $\begin{array}{r}10\\-5\\\hline 5\end{array}$ $\begin{array}{r}5\\-1\\\hline 4\end{array}$ $\begin{array}{r}6\\-4\\\hline 2\end{array}$ $\begin{array}{r}7\\-1\\\hline 8\end{array}$ **25 27 30**

3. $\begin{array}{r}6\\-3\\\hline 3\end{array}$ $\begin{array}{r}7\\-6\\\hline 1\end{array}$ $\begin{array}{r}6\\-1\\\hline 5\end{array}$ $\begin{array}{r}8\\-4\\\hline 4\end{array}$ $\begin{array}{r}6\\-2\\\hline 4\end{array}$ $\begin{array}{r}6\\-5\\\hline 1\end{array}$ **30**

Choose the words or signs that will make the sentences correct. Write them on your paper.

4. When we take a smaller group from a larger group and tell how many are left, we _?_. (add, minus, subtract)

5. When we subtract, the answer is called the _?_. (sum, remainder, equals)

6. The equal sign is _?_. (+, −, =)

7. The minus sign is _?_. (+, −, =)

8. The remainder tells how many are _?_. (in all, left, altogether)

FINDING HOW MANY FEWER

1. Tell which is fewer:

3 tops or 6 tops　　6 balls or 7 balls
10 pennies or 5 pennies

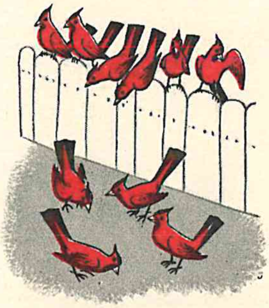
2. How many fewer are 2 dolls than 6 dolls? 4

3. How many fewer are 4 knives than 8 knives? 4

4. Read each problem below. Subtract the smaller number from the larger number to find how many fewer. Then answer the question.

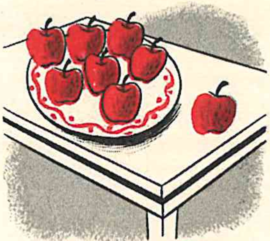
A. Six birds are on the fence, and 4 birds are on the ground. How many fewer birds are on the ground than on the fence?

$$\begin{array}{r} 6 \\ -4 \\ \hline 2 \end{array}$$



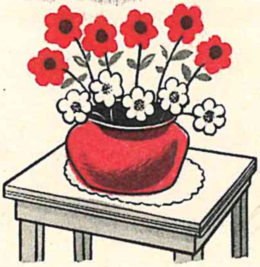
B. Seven apples are in the dish, and 1 apple is on the table. How many fewer apples are on the table than in the dish?

$$\begin{array}{r} 7 \\ -1 \\ \hline 6 \end{array}$$



C. There are 6 red flowers and 5 white flowers in the bowl. How many fewer white flowers are in the bowl?

$$\begin{array}{r} 6 \\ -5 \\ \hline 1 \end{array}$$



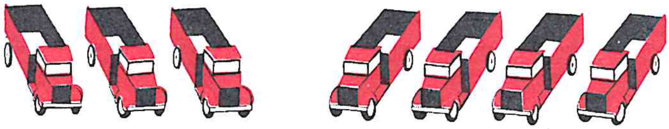
SELLING TOYS

A

The third grade had a toy sale. They used the money to buy things for their room.

Read these problems and say the answers to the questions. The pictures will help you.

1. The children had 7 trucks to sell. They sold only 4 of them. How many trucks were left?

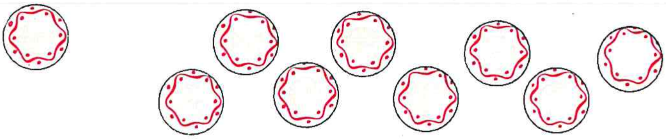


$$\begin{array}{r} 7 \\ -\,4 \\ \hline 3 \end{array}$$

2. There were 7 doll buggies. After the sale, they had 3 left. How many were sold?

$$\begin{array}{r} 7 \\ -\,3 \\ \hline 4 \end{array}$$

3. They had 9 doll dishes and sold 8 of them. How many dishes were left?



$$\begin{array}{r} 9 \\ -\,8 \\ \hline 1 \end{array}$$

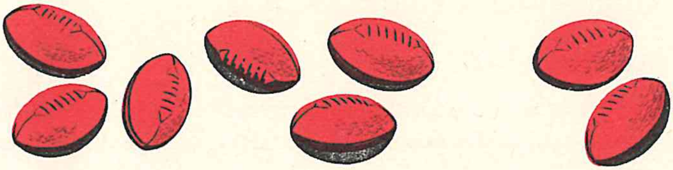
4. They had 9 doll beds to sell. After the sale, only 1 bed was left. How many beds were sold?

$$\begin{array}{r} 9 \\ -\,1 \\ \hline 8 \end{array}$$

A A

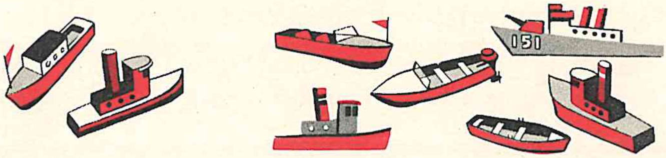
5. Eight footballs were for sale. After the sale there were 2 footballs. How many were sold?

$$\begin{array}{r} 8 \\ -2 \\ \hline 6 \end{array}$$



6. At the beginning of the sale, there were 8 boats. Six were sold. How many boats were left?

$$\begin{array}{r} 8 \\ -6 \\ \hline 2 \end{array}$$



7. They sold 5 of the 7 doll chairs they had when the sale began. How many chairs were left?

$$\begin{array}{r} 7 \\ -5 \\ \hline 2 \end{array}$$

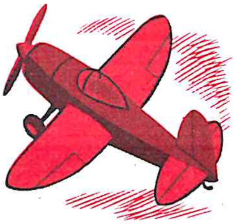
8. The children had 7 dolls for sale. They sold all but 2 dolls. How many did they sell?

$$\begin{array}{r} 7 \\ -2 \\ \hline 5 \end{array}$$

Copy the examples shown on pages 34 and 35. Subtract, and write the remainders. Look at the pictures to make sure the remainders are right. **Learn the subtraction facts.**

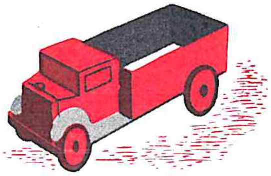
5

FINDING HOW MUCH LESS



1. Tell which costs less:

A. a 3¢ top or a 7¢ airplane
B. an 8¢ knife or a 2¢ marble
C. a 2¢ doll dish or a 7¢ puzzle
D. a 1¢ marble or a 9¢ doll chair



2. Tell which costs less and how much less:

A. a 5¢ ball or a 7¢ car
B. a 9¢ boat or an 8¢ truck
C. a 6¢ boat or an 8¢ truck
D. a 7¢ car or a 4¢ ball

3. Read each problem below. Subtract the smaller number from the larger number to find how much less. Then answer the question that is asked.

A. Yesterday large oranges were selling for 7¢ each. Today they are 5¢ each. How much less are they today?

6

B. Susan's kitten weighs 2 pounds. Billy's pup weighs 8 pounds. How much less does the kitten weigh than the pup? 6 pounds

C. Judy paid 4¢ for a pencil. Mary bought one for 7¢. How much less did Judy's pencil cost? 3¢

D. Jane wants to buy a rubber bone for her puppy. A large bone costs 9¢. A smaller one costs 8¢. How much less does the smaller bone cost? 1¢

OTHER TOYS FOR SALE

The pictures show other toys for sale. Make problems about the pictures. Say the remainders.

$$\begin{array}{rr} 8 & 8 \\ -7 & -1 \\ \hline ? & ? \\ 1 & 7 \end{array}$$

$$\begin{array}{rr} 8 & 8 \\ -5 & -3 \\ \hline ? & ? \\ 3 & 5 \end{array}$$

$$\begin{array}{rr} 10 & 10 \\ -9 & -1 \\ \hline 1\ ? & 9\ ? \end{array}$$

$$\begin{array}{rr} 9 & 9 \\ -6 & -3 \\ \hline ? & ? \\ 3 & 6 \end{array}$$

1. Copy the examples above. Subtract and write the remainders. **Study and learn the facts.**

2. Read the problems below. Answer the questions.

A. Helen spent 9¢ and Jane spent 1¢. How much more did Helen spend than Jane? 8¢

B. Tom bought 3 airplanes and John bought 7. How many fewer did Tom buy than John? 4

C. Alan spent 8¢ for a truck and 6¢ for a boat. How much less did he spend for the boat than for the truck? 2¢

D. Seven puzzles were for sale. Two of them were sold. How many puzzles were left? 5

PRACTICING SUBTRACTION

Another way to write a subtraction fact is $9-3=6$. We read this fact "9 minus 3 equals 6." Read the examples below and say the remainders. For the first example say, "8 minus 1 equals 7." What will you say for the next example?

	A	B	C
1.	$8-1=?$	$9-6=?$	$8-5=?$
2.	$10-9=?$	$7-3=?$	$9-8=?$
3.	$8-7=?$	$9-1=?$	$7-4=?$
4.	$7-2=?$	$8-3=?$	$10-1=?$
5.	$8-4=?$	$7-6=?$	$6-1=?$
6.	$9-3=?$	$8-2=?$	$8-6=?$
7.	$7-5=?$	$6-4=?$	$6-2=?$
8.	$6-3=?$	$10-5=?$	$7-1=?$

Copy each example above. Put one number above the other, this way: ⟶ $\begin{array}{r}8\\-1\\\hline\end{array}$ Use the sign. Write the remainders.

9. Answer the questions in the problems below.

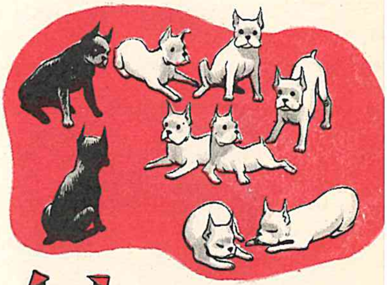
A. Alan needs cardboard to make a toy garage. Cardboard for a small garage costs 6¢. Enough for a large one costs 9¢. How much less will it cost to make the small garage?

B. John had 8¢ in his bank. He took 5¢ out. How much money was left in his bank?

C. Tom made 8 bird pictures. Susan made 3 pictures. How many fewer did Susan make?

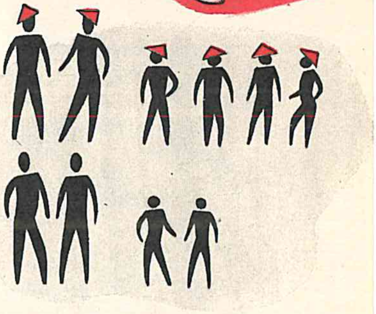
FINDING MORE REMAINDERS

Read the stories. Subtract the smaller group from the larger group. Say the remainders.



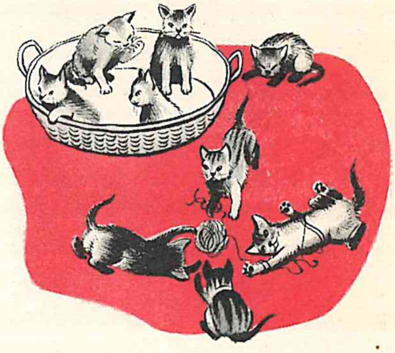
1. Nine puppies were asleep. Seven puppies woke up. How many were still asleep?

2. Two of the 9 puppies were black. How many puppies were white?



3. James drew 10 men. He drew hats on 6 of them. How many had no hats?

4. Four of the 10 men were tall. How many of them were short?



5. Nine kittens were in a basket. Five climbed out. How many kittens were left in the basket?

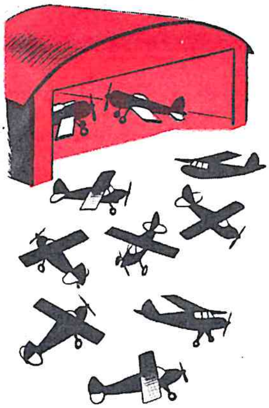
6. Four of the 9 kittens were playing with a ball of string. How many were not playing?

Learn the subtraction facts below.

$$\begin{array}{r} 9 \\ -7 \\ \hline 2 \end{array} \quad \begin{array}{r} 9 \\ -2 \\ \hline 7 \end{array} \qquad \begin{array}{r} 10 \\ -6 \\ \hline 4 \end{array} \quad \begin{array}{r} 10 \\ -4 \\ \hline 6 \end{array} \qquad \begin{array}{r} 9 \\ -5 \\ \hline 4 \end{array} \quad \begin{array}{r} 9 \\ -4 \\ \hline 5 \end{array}$$

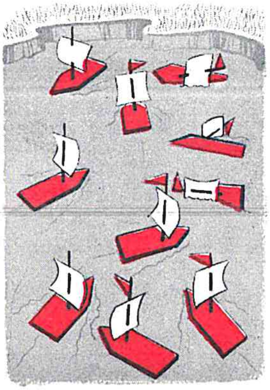
FINDING HOW MANY ARE LEFT

Study the pictures and read the problems. Subtract the smaller number from the larger number to find the answer to each question.



1. John made 10 toy airplanes. He put wheels on 8 of them. How many of his airplanes had no wheels?

2. John played with his 10 airplanes. He put 2 of them in a hangar. How many were left out of the hangar?



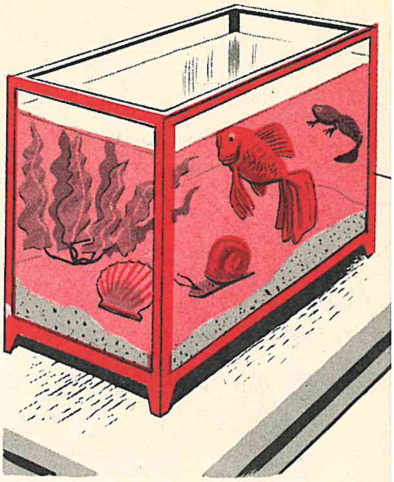
3. Tom made 10 sailboats. He put flags on 7 of them. How many boats had no flags?

4. Tom was sailing his 10 boats. Three of them fell over. How many boats were still sailing?

Learn the subtraction facts below.

$$\begin{array}{r}10\\-8\\\hline 2\end{array}\qquad\begin{array}{r}10\\-2\\\hline 8\end{array}\qquad\qquad\begin{array}{r}10\\-7\\\hline 3\end{array}\qquad\begin{array}{r}10\\-3\\\hline 7\end{array}$$

THE FISH BOWL



Each child in the third grade had 10¢ to spend for things to put in the fish bowl.

These problems tell you how the money was spent. Write the answer to the question in each problem.

1. Susan spent 8¢ for a goldfish. How much money did she have left?

2. Alan bought a water plant for 9¢. How much money did he have left?

3. James bought a snail that cost 3¢. How much change did he get?

4. John bought a tadpole for 7¢. How much money did he have left?

5. Mary bought a sea shell for 2¢. How much change did she get?

Read your answers. Does each one answer the question that was asked in the problem?

Copy the examples below. Write the remainders.

	A	B	C	D	E	F	G	H
6.	$\begin{array}{r}9\\-6\\\hline\end{array}$	$\begin{array}{r}9\\-3\\\hline\end{array}$	$\begin{array}{r}8\\-1\\\hline\end{array}$	$\begin{array}{r}10\\-3\\\hline\end{array}$	$\begin{array}{r}8\\-5\\\hline\end{array}$	$\begin{array}{r}9\\-2\\\hline\end{array}$	$\begin{array}{r}8\\-7\\\hline\end{array}$	$\begin{array}{r}10\\-4\\\hline\end{array}$
7.	$\begin{array}{r}10\\-1\\\hline\end{array}$	$\begin{array}{r}9\\-7\\\hline\end{array}$	$\begin{array}{r}10\\-8\\\hline\end{array}$	$\begin{array}{r}9\\-5\\\hline\end{array}$	$\begin{array}{r}10\\-2\\\hline\end{array}$	$\begin{array}{r}10\\-7\\\hline\end{array}$	$\begin{array}{r}9\\-4\\\hline\end{array}$	$\begin{array}{r}10\\-6\\\hline\end{array}$

FINDING HOW MANY OR HOW MUCH MORE WILL BE NEEDED

In these problems you will subtract the smaller number from the larger number to find how many or how much more will be needed.

Read each problem and write the answer to the question that is asked in the problem.

1. Billy wants to make a roof for his garage. He must have 8 pieces of wood. He has 3 pieces. How many more pieces of wood does he need?

2. The garage door will be put on with 9 rings. Billy has 3 rings. How many more rings does he need for the door?

3. The garage will have room for 8 cars. Billy has 7 cars. How many more cars does he need to fill the garage?

4. The cars cost 10¢ each. Billy has 6¢. How much more money does he need to buy a car?

LEARNING TO SOLVE PROBLEMS

Sometimes the question in a problem helps us to know how to solve the problem. Read each of these problems. Think what the question asks. Then decide how to find the answer to the question. When you know the answer, write it on your paper.

1. Ten robins were eating crumbs under a tree. Two of them flew away. Then how many robins were eating?

2. Jane is making aprons for her 9 dolls. She has made 4 aprons. How many more aprons does she need to make?

3. The third grade is saving boxes to build a city. They have 9 large boxes and 2 small ones. How many fewer small boxes do they have?

4. Helen has 5¢ to spend for a toy for her baby brother. She saw a rattle that cost 9¢. How much more money does she need to buy it?

5. Last week there were 4 pennies in the pig bank. Now there are 10. How many more pennies are in the bank now?

6. John is making airplanes of wood. A small piece of soft wood costs 7¢. A larger piece costs 10¢. How much less does the small piece cost?

MAKING SURE OF SUBTRACTION FACTS

Copy the examples. In each example, write one number exactly under the other, as they are below. Make the numbers carefully. Use the minus sign. Write the remainders.

	A	B	C	D	E	F	G	H	I
1.	10 −9	2 −1	8 −5	5 −4	9 −1	7 −3	10 −7	3 −2	10 −5
2.	9 −4	4 −3	10 −2	7 −4	8 −1	10 −4	3 −1	6 −2	8 −3
3.	8 −2	6 −3	9 −6	10 −1	4 −2	9 −3	6 −4	7 −1	9 −7
4.	10 −6	4 −1	7 −5	9 −2	10 −8	5 −3	8 −7	5 −2	8 −6
5.	9 −8	6 −5	7 −6	6 −1	8 −4	10 −3	7 −2	9 −5	5 −1

Look at your paper. Did you make each number neatly and correctly? If you did not, turn to page 3. Practice making the numbers.

If you missed any of the examples, find what the remainders should be. Write the facts you missed and learn them.

MAKING SURE OF ADDITION

Write the numbers from 1 to 5 on your paper. Beside the number of each sentence, write the word or sign that belongs in the blank.

1. When we put numbers together and find how many there are altogether, we are ?.

2. The plus sign tells us to ?.

3. When we add, the answer is called the ?.

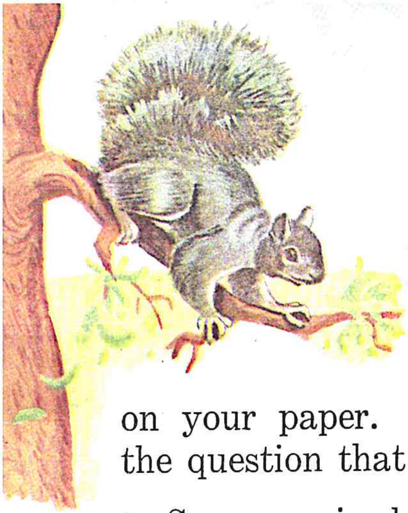
4. The sign that means "are the same as" or "is equal to" is ?.

5. The sign that tells us to add is ?.

Copy these examples. Add, and write the sums.

	A	B	C	D	E	F	G	H	I	J
6.	8 +1	6 +3	4 +4	2 +3	6 +4	5 +2	4 +3	2 +2	2 +7	4 +5
7.	3 +5	2 +8	7 +3	3 +3	7 +2	3 +4	2 +6	9 +1	4 +6	3 +2
8.	2 +4	3 +6	5 +4	6 +2	5 +5	3 +7	2 +5	8 +2	5 +3	4 +2

If you missed any examples, find what the sums should be. Write the facts you missed and learn them.



PRACTICE IN PROBLEM SOLVING

Write the numbers from 1 to 7 on your paper. Read each problem. Think what happens in the problem and what the question asks. Write the answer on your paper. What you write must answer the question that is asked in the problem.

1. Seven squirrels were playing in a park. One more squirrel came to play with them. Then how many squirrels were playing?

2. In a pen at the zoo, 4 monkeys were playing in a corner, and 6 were climbing a tree. How many monkeys were in the pen?

3. James bought a pencil for 2¢ and a ball for 8¢. How much money did he spend?

4. Tom's aunt gave him a new book about a train. He already had 6 books about trains. How many has he altogether?

5. Three girls are on the slide. Seven are on the swings. How many girls are playing?

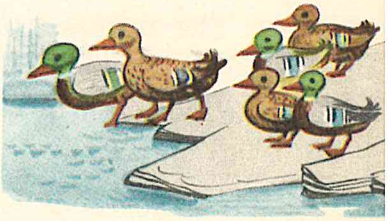
6. Five sailboats and 4 motorboats are in the water. How many boats are there altogether?

7. Judy saw 7 large bears and 3 baby bears at the circus. How many bears did Judy see?

If you missed any problems, turn to pages 11 and 18 for more practice, then try them again.

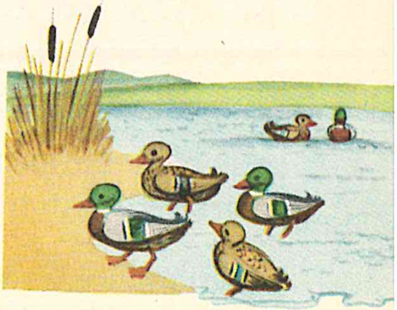
DECIDING WHEN TO ADD AND WHEN TO SUBTRACT

Read each problem. Think what happens in the problem and what the question asks. Decide whether to add or subtract to find the answer. Then answer the question.



1. Six wild ducks were standing on a rock. Two of them walked into the water. How many were left on the rock?

Should you add or subtract to find the answer to the question?

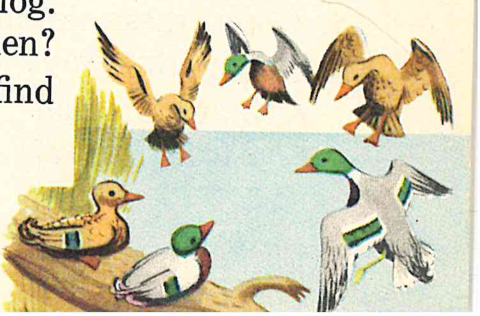


2. Six ducks were in the water. Four swam to shore. Then how many were in the water?

Should you add or subtract to find the answer?

3. Four ducks were diving for food. Two more ducks came to eat. Then how many were eating?

What should you do to answer the question?



4. Two ducks were sitting on a log. Four more flew to the log. How many were on the log then?

What should you do to find the answer?

USING SIGNS FOR ADDITION AND SUBTRACTION

The plus sign (+) tells you to add. To add means to put numbers together and find the sum.

The minus sign (−) tells you to subtract. To subtract means to take the smaller number from the larger number and find the remainder.

Read each problem and look at the example. Then do what the sign tells you to do.

1. Alan had 5 marbles. He sold 2 of them to John. How many marbles did Alan have left?

5 marbles
−2 marbles
3 ? marbles

2. John had 3 marbles. He bought 2 marbles from Alan. How many marbles did John have altogether?

3 marbles
+2 marbles
? marbles

3. John had 5 pennies. He gave 3 of them to Alan for the marbles. How many pennies did John have then?

5 pennies
−3 pennies
2 ? pennies

4. Alan had 2 pennies. John gave him 3 more. How many pennies did Alan have then?

2 pennies
+3 pennies
5 ? pennies

The equal sign (=) means "are the same as" or "is equal to."

5. Copy these examples. Write the answers. Use signs this way: $3+2=5$; $5-2=3$.

A. 3 and 2 equal ?

B. 2 from 5 equals ?

C. 3 from 5 equals ?

D. 2 and 3 equal ?

3 + 2 = 5.
5 − 2 = 3
5 − 3 = 2
2 + 3 = 5

ADDITION AND SUBTRACTION FACTS

Two addition facts and two subtraction facts use the numbers 2, 4, and 6. Here are the four facts:

ADDITION FACTS

$$\begin{array}{r}4\\+2\\\hline 6\end{array}\qquad\begin{array}{r}2\\+4\\\hline 6\end{array}$$

SUBTRACTION FACTS

$$\begin{array}{r}6\\-2\\\hline 4\end{array}\qquad\begin{array}{r}6\\-4\\\hline 2\end{array}$$

Only one addition fact and one subtraction fact use the numbers 3, 3, and 6. Do you see why?

$$\begin{array}{r}3\\+3\\\hline 6\end{array}\qquad\qquad\begin{array}{r}6\\-3\\\hline 3\end{array}$$

Copy the examples after each letter below. Write the sums and the remainders. Look at each group of facts that you have written. What numbers are used in each group?

A. $\begin{array}{r}1\\+1\\\hline\end{array}\quad\begin{array}{r}2\\-1\\\hline\end{array}$

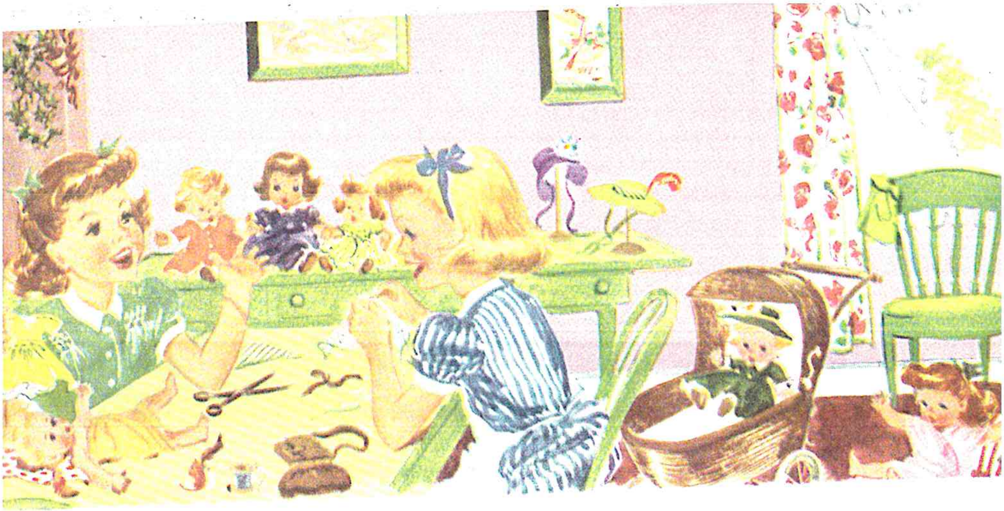
D. $\begin{array}{r}2\\+2\\\hline\end{array}\quad\begin{array}{r}4\\-2\\\hline\end{array}$

B. $\begin{array}{r}5\\+1\\\hline\end{array}\quad\begin{array}{r}1\\+5\\\hline\end{array}\quad\begin{array}{r}6\\-1\\\hline\end{array}\quad\begin{array}{r}6\\-5\\\hline\end{array}$

E. $\begin{array}{r}4\\+1\\\hline\end{array}\quad\begin{array}{r}1\\+4\\\hline\end{array}\quad\begin{array}{r}5\\-1\\\hline\end{array}\quad\begin{array}{r}5\\-4\\\hline\end{array}$

C. $\begin{array}{r}2\\+1\\\hline\end{array}\quad\begin{array}{r}1\\+2\\\hline\end{array}\quad\begin{array}{r}3\\-1\\\hline\end{array}\quad\begin{array}{r}3\\-2\\\hline\end{array}$

F. $\begin{array}{r}3\\+1\\\hline\end{array}\quad\begin{array}{r}1\\+3\\\hline\end{array}\quad\begin{array}{r}4\\-1\\\hline\end{array}\quad\begin{array}{r}4\\-3\\\hline\end{array}$



MAKING CLOTHES FOR DOLLS

Jane and Judy are making clothes for their dolls. Write the answers to the questions.

1. "I have made 3 hats for our dolls, and you have made 3," said Jane. "How many hats have we made altogether?"

2. "We have 6 dolls, but so far we have made only 3 dresses," said Judy. "How many more dresses do we need?"

3. Jane said, "We had 6 feathers for the hats. We used 1 of them. How many feathers are left?"

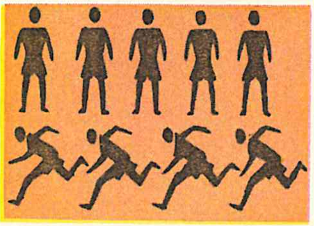
4. "I made 1 pocketbook and you made 5. How many did we make altogether?" asked Judy.

5. Jane said, "We have made only 5 coats, but we have 6 dolls. How many more coats do we need?"

If you missed any of the problems, read again those that you missed. Then make a picture to help you answer each question.

MORE ADDITION AND SUBTRACTION FACTS

What numbers are used in these facts?



ADDITION FACTS		SUBTRACTION FACTS	
5	4	9	9
+4	+5	−4	−5
9	9	5	4

Below are groups of addition and subtraction examples. Copy them. Write the sums or remainders.

	A				B			
1.	4	3	7	7	6	3	9	9
	+3	+4	−3	−4	+3	+6	−3	−6
	7	7	4	3	9	9	6	3
2.	6	2	8	8	8	2	10	10
	+2	+6	−2	−6	+2	+8	−2	−8
	8	8	6	2	10	10	8	2
3.	9	1	10	10	5	3	8	8
	+1	+9	−1	−9	+3	+5	−3	−5
	10	10	9	1	8	8	5	3
4.	6	4	10	10	7	3	10	10
	+4	+6	−4	−6	+3	+7	−3	−7
	10	10	6	4	10	10	7	3
5.	5	2	7	7	7	2	9	9
	+2	+5	−2	−5	+2	+7	−2	−7
	7	7	5	2	9	9	7	2

Look at each group of facts you wrote. What three numbers are used in each group?

FINDING GROUPS OF FACTS

Say the answers for these examples. There will be six groups of addition and subtraction facts.

Write each group of facts in a row on your paper.

4	8	6	1	7	7	8	1	9	9
+4	−4	+1	+6	−1	−6	+1	+8	−1	−8
8	4	7	7	6	1	9	9	8	1

5	4	9	9	7	1	8	8	5	10
+4	+5	−4	−5	+1	+7	−1	−7	+5	−5
9	9	5	4	8	8	7	1	10	5

Look at the groups of facts you have written. What numbers are used in each group?

Read the examples below and give their sums or remainders. Then copy the examples with the signs. Add or subtract as the signs tell you to do. Write the answers.

	A	B	C	D	E	F	G	H	I	J
1.	10 −2 8	1 +9 10	7 −5 2	2 +8 10	10 −7 3	4 +6 10	10 −3 7	10 −1 9	4 +2 6	5 −2 3
2.	8 −5 3	9 −6 3	9 +1 10	3 +7 10	10 −4 6	8 −6 [illegible]	9 −7 2	3 +4 7	6 −4	3 +2 5
3.	3 +3 6	6 −2 4	2 +3 5	6 −3 3	10 −6 4	2 +4 6	8 +2 10	6 +4 10	10 −8 2	5 −3 2

LEARNING TO SOLVE PROBLEMS

Write the numbers from 1 to 6 on your paper. Read each problem below. Think of the story the problem tells you and what the question asks. Decide whether you should add or subtract to find the answer to the question.

When you know the answer, write it on your paper. What you write must answer the question that is asked.

1. Susan and Helen were making cupcakes. Susan made 8 and Helen made 6. How many fewer did Helen make than Susan?

2. Helen said, "My pan will hold 9 cupcakes. I have made 6." How many more must Helen make to fill her pan?

3. Susan said, "My pan holds 9 cupcakes, too. I have made 8." How many more does Susan need to fill her pan?

4. Billy bought part of his lunch at school today. He bought soup for 6¢ and milk for 3¢. How much did he spend altogether?

5. A large ice-cream cone costs 10¢ and a candy bar costs 5¢. How much less does the candy bar cost?

6. Mary bought an apple for 3¢ and a candy bar for 5¢. How much did they cost altogether?

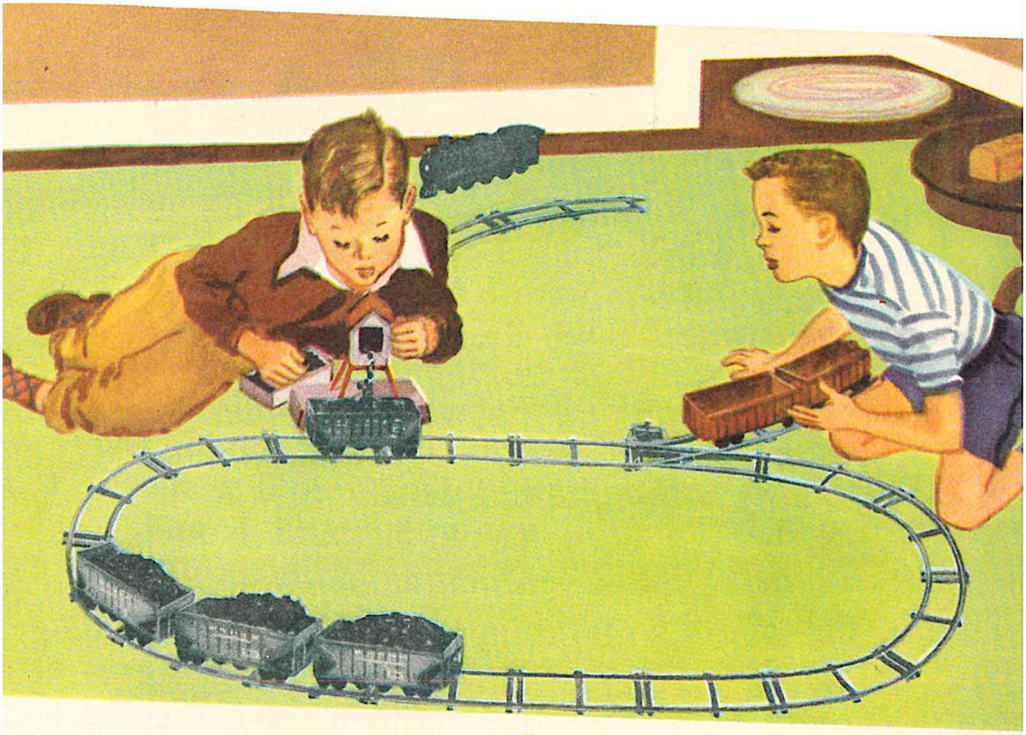
PRACTICING ADDITION AND SUBTRACTION

Copy these examples carefully. The signs tell you what to do. Write the sums or remainders.

	A	B	C	D	E	F	G	H	I	J
1.	8 −4	1 +9	4 +5	7 −5	4 +6	1 +8	10 −3	8 −5	3 +4	10 −8
2.	10 −1	9 −5	8 −1	5 +5	1 +7	7 −2	10 −2	5 +4	8 −6	3 +5
3.	1 +6	5 +2	1 +4	2 +6	7 −3	9 −6	8 −3	9 −2	2 +8	7 +3
4.	2 +7	6 +1	10 −6	7 −6	9 −7	6 +2	3 +6	6 +4	8 −2	5 +3
5.	9 −4	10 −7	6 +3	7 +1	4 +3	8 +2	9 −3	7 −4	10 −4	7 +2

Check your answers. If you missed any, find what the answers should be. Learn the facts you missed.

Look at your paper. Did you write each number correctly? If not, turn to page 3. Practice writing the numbers.



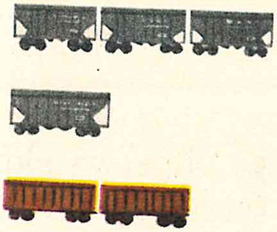
PLAYING WITH CARS

James and Billy are loading their cars. They will put the cars together to make a train. There are 3 cars on the main track. James is loading 1 car. Billy is pushing 2 cars toward James. How many cars will the train have?

Copy the numbers and add. Begin at the top. Add down. Add 3 and 1. Think 4. Add 4 and 2. Think 6. Write the sum, 6.

The sum is the answer to the question in the problem. Think: "The train will have 6 cars."

$$\begin{array}{r}3\\1\\\underline{2}\\6\end{array}$$



ADDING MORE THAN TWO NUMBERS

1. Mary and Susan were playing with their dolls. Mary put 3 dolls to bed. Susan put 2 dolls in a carriage. There were 3 dolls in chairs. How many dolls were there altogether?

3
2
3
—

Copy the numbers and add. Begin at the top and add down. Add 3 and 2. Think 5. Add 5 and 3. Think 8. Write the sum, 8.

The answer to the question in the problem is, "There were 8 dolls altogether."

2. Judy had 5 girl dolls, 3 cowboy dolls, and 2 baby dolls. How many dolls did she have?

5 dolls
3 dolls
2 dolls
—
? dolls

Copy the example. Add and write the sum.

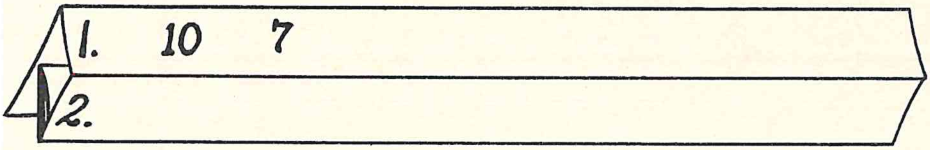
How many dolls did Judy have altogether?

▶ When we add more than two numbers, we place them one under the other. Then the numbers are in a **column.** When we add more than two numbers we are doing **column addition.**

PRACTICING COLUMN ADDITION

Sometimes you may write the answers on your paper without copying the examples. Fold your paper and write the answers. The picture below shows you how to do it.

	A	B	C	D	E	F	G	H
1.	3	1	2	5	3	1	1	2
	5	1	4	1	2	2	6	3
	2	5	3	1	4	5	3	5



2.	3	2	1	2	3	1	3	4
	2	4	1	2	4	2	5	3
	2	2	8	6	2	7	1	3
3.	4	1	2	4	1	5	1	2
	2	4	2	1	3	1	8	5
	1	3	5	4	4	3	1	1

Copy the columns of numbers below. Be sure to write one number exactly under the other. Add, and write the sums.

4.	5	2	3	1	3	1	1	2
	2	1	3	7	4	5	3	6
	3	6	4	2	1	4	1	2

MORE COLUMN ADDITION

Fold a paper as you did for page 57. Write the sums for the examples in Rows **1** and **2**.

	A	B	C	D	E	F	G	H	I	J
1.	2	3	1	5	3	1	2	8	3	1
	5	1	4	3	2	5	4	1	3	2
	3	6	4	1	5	1	4	1	2	4
2.	4	1	7	2	3	1	1	4	3	6
	4	5	2	3	6	1	7	2	1	3
	2	3	1	1	1	7	1	3	4	1

3. Read these examples. What do we call this sign: + ? Add, and say the sums.

A. 2 + 1 + 7 are ?
B. 2 + 6 + 1 are ?
C. 3 + 4 + 3 are ?

D. 4 + 1 + 3 = ?
E. 4 + 3 + 2 = ?
F. 5 + 2 + 1 = ?

Copy the six examples above. Write the numbers in columns, this way: ⟶

A	B
2	2
1	6
7	1

Add the numbers in the examples you have copied. Write the sums. Remember to write the zero in the correct place when the sum is 10.

BRINGING THE MAIL

Read each problem below. Think what the question asks. Use the numbers in the problem to find the answer.

1. The postman brought 5 letters for Father, 3 letters for Mother, and 2 letters for the children. How many letters in all did he bring?

2. Alan spent 5¢ for a post card, 1¢ for a stamp, and 2¢ for a pencil. How much did he spend?

3. The postman brought a box from Father. In it were 2 toy airplanes, 2 toy trucks, and 4 toy cars. How many toys were in the box?

4. Judy was saving money for a Savings Stamp. She saved 6¢ on Monday, 1¢ on Tuesday, and 2¢ on Wednesday. How much did she save in all?

5. Alan had 1 red stamp, 6 green stamps, and 2 blue stamps in his stamp book. How many stamps did he have altogether?

Read your answers. Does each one answer the question asked in the problem? Did you use the cent sign with the sums in Problems **2** and **4**?

MAKING SURE OF COLUMN ADDITION

Fold a paper under the examples below. Add, and write the sums.

	A	B	C	D	E	F	G	H	I	J
1.	1	4	2	1	1	4	3	2	6	1
	4	2	3	2	5	1	1	3	2	2
	5	4	4	6	2	5	3	2	2	3
2.	2	2	2	2	2	1	3	4	2	1
	1	2	1	7	4	3	2	5	2	1
	4	2	5	1	1	5	1	1	3	6
3.	5	7	6	2	4	5	3	1	2	1
	1	1	1	3	4	2	3	3	5	6
	4	1	3	3	1	2	3	6	2	1

If you missed some of the examples, study them carefully. Find your mistakes. It may help you to study again pages 55 and 56.

Choose the correct words for the blanks below.

4. We are doing column addition when we add ?. (two numbers, more than two numbers)

5. When we write more than two numbers, one under the other, we call them a ? of numbers. (group, column, row)

6. We call the answer in addition the ?. (sum, remainder, group)

UNDERSTANDING NUMBERS

The numbers below are made with the **figures** 1, 2, 3, 4, 5, 6, 7, 8, 9, and 0. Each of the numbers has two figures. Read the numbers and their names. Tell what each number means.

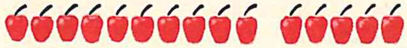
11 eleven 1 ten and 1 more

12 twelve 1 ten and 2 more

13 thirteen 1 ten and 3 more

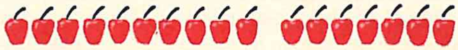
14 fourteen 1 ten and 4 more

15 fifteen 1 ten and 5 more



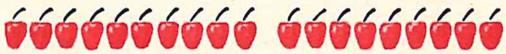
16 sixteen 1 ten and 6 more

17 seventeen 1 ten and 7 more

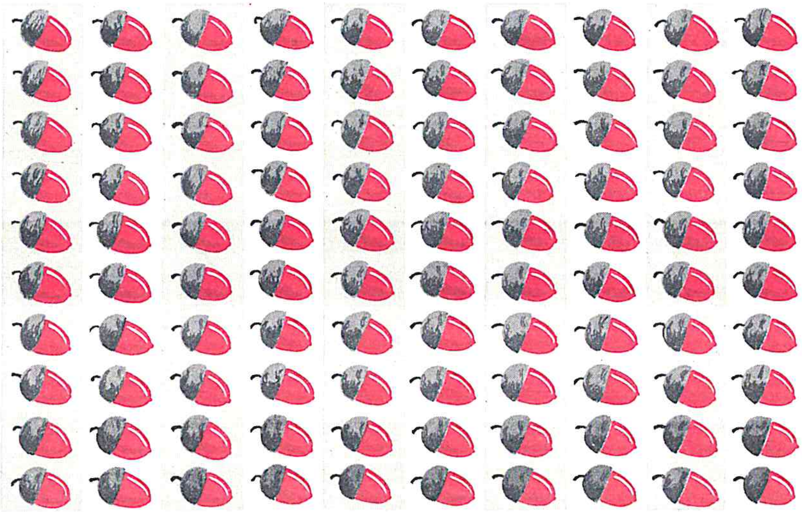


18 eighteen 1 ten and 8 more

19 nineteen 1 ten and 9 more



20 twenty 2 tens



COUNTING BY TENS

One day the children made acorn necklaces. The picture shows how they placed the acorns to count them.

1. How many acorns are there in each column?

2. How many columns are there?

3. Count by tens to find how many there are altogether. Say, "10, 20, 30," and so on.

4. How many tens are there in 30? 40? 50? 60? 70? 80? 90? 100?

10	ten	1 ten
20	twenty	2 tens
30	thirty	3 tens
40	forty	4 tens
50	fifty	5 tens
60	sixty	6 tens
70	seventy	7 tens
80	eighty	8 tens
90	ninety	9 tens
100	one hundred	10 tens

USING A NUMBER CHART

1	11	21	31	41	51	61	71	81	91
2	12	22	32	42	52	62	72	82	92
3	13	23	33	43	53	63	73	83	93
4	14	24	34	44	54	64	74	84	94
5	15	25	35	45	55	65	75	85	95
6	16	26	36	46	56	66	76	86	96
7	17	27	37	47	57	67	77	87	97
8	18	28	38	48	58	68	78	88	98
9	19	29	39	49	59	69	79	89	99
10	20	30	40	50	60	70	80	90	100

If you were to count all of the acorns on page 62 one by one, you would use all of the numbers above. Do you see that all of the numbers are made with the figures 1, 2, 3, 4, 5, 6, 7, 8, 9, and 0?

1. Find 1 on the chart. Read the numbers from 1 to 50; from 51 to 100.

2. Find 10 and read the numbers in that row from left to right. Find 1 and read that row from left to right. Find 5 and read that row.

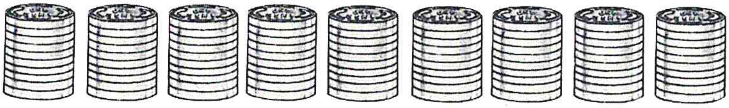
3. The number 18 is how many more than 8? When you read any row from left to right, each number is ten more than the number in the column before it.

4. Twenty is 2 tens. You see that 23 is 2 tens and 3 more. What does 25 mean? 29? 30? 37?

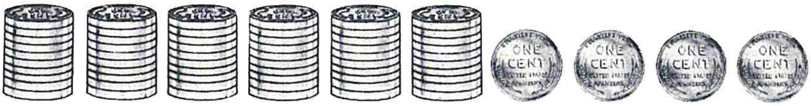
STACKS AND STACKS OF PENNIES

Some of the children were asked to count pennies given for the Junior Red Cross.

1. James and Mary put their pennies in stacks of ten. They counted them by tens. Mary said, "We have 90 pennies. We have 9 stacks with 10 pennies in each stack."

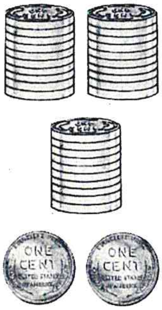


2. Alan put his pennies in stacks of ten. He had 6 stacks and 4 pennies over. He counted the pennies, "10, 20, 30, 40, 50, 60. I have 60 pennies and 4 more. I have 64 pennies."

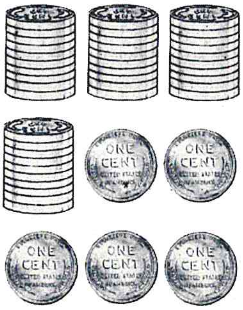


3. The pictures below show the pennies Billy, Judy, and Tom counted. Count the stacks of ten and the pennies left over. Tell how many each child had.

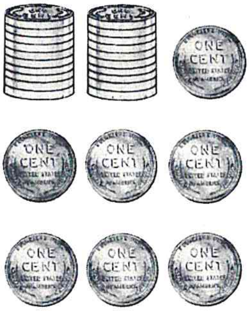
BILLY'S PENNIES



JUDY'S PENNIES



TOM'S PENNIES



TWO-PLACE NUMBERS

1. Say the numbers from 14 to 19 quickly. Do you hear something like "four-ten, five-ten, six-ten, seven-ten, eight-ten, nine-ten"?

What you hear helps you to remember that 14 means 4 and 10; 15 means 5 and 10. What does 16 mean? 17? 18? 19?

2. Find 27 on the chart. The 7 is in ones' place. The 2 is in tens' place. The 27 means 2 tens and 7 ones. What does 24 mean? 29? 26?

tens' place	ones' place
2	7
2	4
2	9
2	6
4	2
4	5
4	8
4	1
2	0
4	0

3. The 42 means 4 tens and 2 ones. What do 45, 48, and 41 mean?

▶ We call these numbers **two-place numbers.** In each number, the figure on the right is in **ones' place.** It shows how many ones there are. The figure on the left is in **tens' place.** It shows how many tens there are.

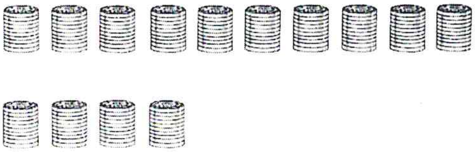
▶ In 20 and in 40 the zero (0) shows that there are no ones in ones' place. Zero in ones' place always means that there are no ones in that place.

4. Tell how many tens and ones there are in each of these numbers: 30, 15, 63, 81, 97, 12, 75, 56.

HUNDREDS AND HUNDREDS OF PENNIES

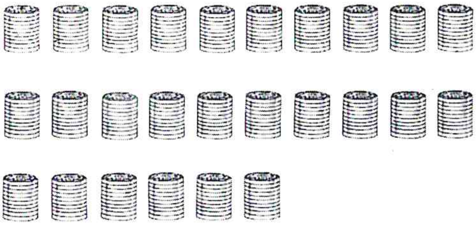
The children put the stacks of pennies for the Junior Red Cross in rows. Each stack had 10 pennies in it. Count by tens to find how many pennies are in each row.

1. The first grade gave these pennies. Mary said, "They gave 1 hundred, and 4 tens. That makes 140."



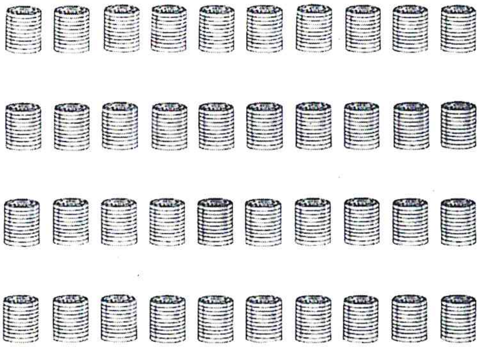
Count the pennies by tens to see if she was right.

2. The second grade gave these pennies. Tom counted, "1 hundred, 2 hundred and 60 more."



How many pennies were there?

3. They put the pennies from the two grades together. James said, "There are 4 hundred pennies."



Now count by hundreds to see if he was right.

LEARNING ABOUT THREE-PLACE NUMBERS

10	110	210	310	410
20	120	220	320	420
30	130	230	330	430
40	140	240	340	440
50	150	250	350	450
60	160	260	360	460
70	170	270	370	470
80	180	280	380	480
90	190	290	390	490
100	200	300	400	500

1. Read the numbers by tens from 10 to 90. How many figures are there in each number?

2. Begin with 100 and read the numbers by tens to 200.

3. Say the numbers by ones that come between 260 and 280. Say 260, 261, 262, and so on.

▶ The numbers with three figures are **three-place numbers.** The first place at the right is for **ones.** The second place is for **tens,** and the third place is for **hundreds.**

4. Look at the chart at the right. In 297 there are 2 hundreds, 9 tens, and 7 ones. Tell what 125 means.

The zeros in 200 show there are no ones in ones' place and no tens in tens' place in this number. The zeros also show that the 2 means two hundreds.

The zero in 305 shows that there are no tens in tens' place. It shows that the 3 means three hundreds and the 5 means five ones.

hundreds' place	tens' place	ones' place
2	9	7
1	2	5
2	0	0
3	0	5
4	5	0

5. What does the zero mean in 450?

READING AND WRITING NUMBERS

1. Tell what number belongs in each blank.

A. 424 means ? hundreds, ? tens, ? ones.
B. 207 means ? hundreds, ? tens, ? ones.
C. 380 means ? hundreds, ? tens, ? ones.
D. 500 means ? hundreds, ? tens, ? ones.

2. We read numbers from left to right.
We read 444 this way:
First we say "four hundred." ⟶ 400
Then we say "forty." ⟶ 40
Then we say "four." ⟶ 4
Say "four hundred forty-four." ⟶ 444

3. We read the number 208, "two hundred eight." We do not read the zero.

4. Read these numbers:

2	22	222	84	379	108	467
296	75	453	9	408	305	500

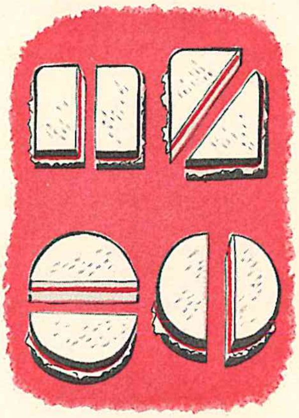
5. Write these numbers in figures.

A. seventy-eight
B. ninety-five
C. eighty-six
D. four hundred sixty-five
E. three hundred fifty
F. two hundred nine

6. Write the numbers from 281 to 300. First write 281, 282, 283 and so on to 290 in a column. Keep the column of numbers straight. When you come to 291, begin a new column. Write the numbers from 291 to 300 in that column.

CUTTING WHOLE THINGS INTO EQUAL PARTS

One day Susan, Mary, Helen, and Jane had a picnic. The four girls decided to divide the food so each girl could have some of everything.

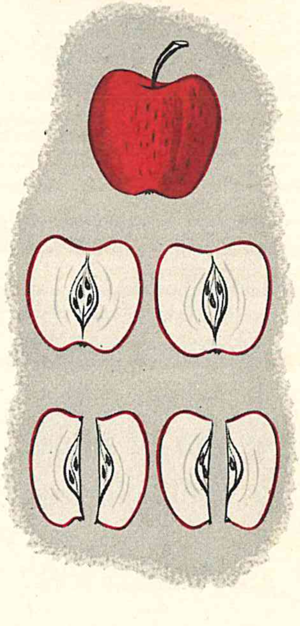


1. Jane said, "Let's cut each sandwich into two pieces."

Helen said, "Be sure to cut each sandwich so that the two pieces are the same size."

Here are the sandwiches. Is each cut into two **equal** pieces?

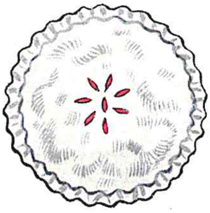
▶ Each of the two equal pieces is called **one-half.**



2. Jane said, "I'll cut my apple into halves. It will make two pieces."

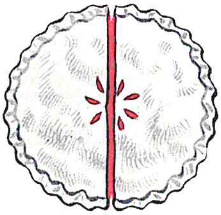
Susan said, "There are four of us, so we need four pieces. Cut it into two pieces. Then cut each piece again. That will make four pieces. Cut it so the pieces are exactly the same size. Then each of us can have an equal share of the apple."

▶ Each of the four equal pieces is called **one-fourth.** We also call one-fourth **a quarter.**



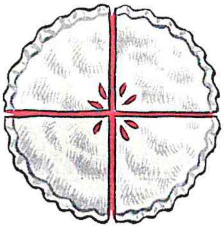
3. Mary cut her cherry pie into halves. How many pieces did she have? What was each piece called?

4. Then Mary cut each piece again. She was careful to make the pieces the same size. How many pieces did she have then?



5. When a pie is cut into four equal pieces, what is each piece called?

6. How many halves are there in a whole pie? in a whole apple?



7. How many halves are there in any whole thing?

8. How many fourths are there in a whole pie? in a whole apple?

9. How many fourths are there in any whole thing? how many quarters?

WHOLES, HALVES, AND FOURTHS

You will need three sheets of paper that are exactly the same size to do these problems.

1. Write the words **one whole** on one of the sheets of paper.

2. Fold and cut the second sheet into two pieces exactly the same size. What should you call each of these pieces? Write the name on each piece.

3. Lay the two halves side by side on the whole sheet of paper. Are the two halves together the same size as the whole? How many halves equal one whole?

4. Cut the third sheet of paper into four pieces that are exactly the same size. What should you call each of these four pieces? Write the name of each piece on it.

5. Now lay the four fourths side by side on the whole sheet of paper. Are the four fourths together the same size as the whole? How many fourths equal one whole?

6. Lay one of the halves of the sheet of paper on your desk. Now lay enough fourths on the half to cover it. How many fourths did you use? How many fourths equal one-half?

7. Now lay the two halves of the sheet of paper side by side. Cover them with the fourths. How many fourths did you use to cover two halves? How many fourths equal two halves?

8. Which is larger, one-fourth of a cake or one-half of a cake? Make a picture to show why.

▶ Remember:

2 halves = 1 whole, or 1 whole = 2 halves
4 fourths = 1 whole, or 1 whole = 4 fourths
2 fourths = 1 half, or 1 half = 2 fourths

CHECKING ADDITION AND SUBTRACTION

If we make mistakes in our work, we find the mistakes by adding or subtracting again.

John added down and wrote the answer, 10, for this example. Then he added down again to see if his answer was correct. This time his answer was 9. He wrote the 9 under the 10.

$$\begin{array}{r} 4 \\ 2 \\ 3 \\ \hline \cancel{10} \\ 9 \end{array}$$

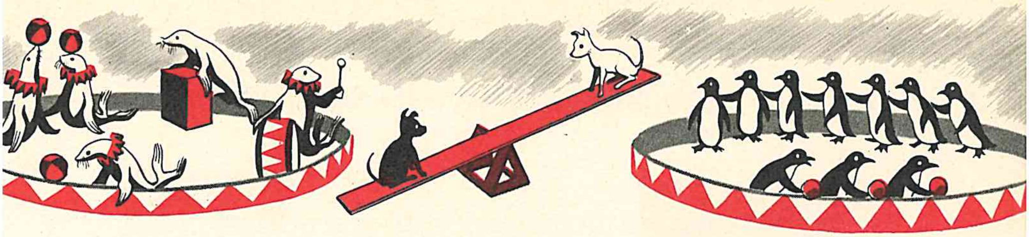
John did not know which answer was correct. So he added once more. His answer was 9 again. John decided that 9 was the correct answer. He drew a line through the 10 to show that it was not the correct sum.

▶ This is called **checking.** Our work is likely to be correct if we get the same answer twice.

▶ We check subtraction by subtracting again. We may need to subtract several times before we are sure that our answer is correct.

Copy the examples below and find the sums or remainders. Then check your work.

	A	B	C	D	E	F	G	H
1.	1 2 2	6 1 1	4 2 2	3 1 5	6 2 1	1 4 2	4 3 1	7 1 2
2.	7 −3	10 −9	8 −4	10 −4	9 −2	10 −8	8 −1	10 −1



AT THE CIRCUS

Read each problem. Decide whether to add or subtract. Use the numbers in each problem. Write the answer. Then check to see if the answer is correct. Does it answer the question?

1. At the circus, 1 seal was climbing on a box, 1 seal was beating a drum, and 3 were playing with balls. How many seals were there in all?

2. The black dog weighs 8 pounds, and the white one weighs 7 pounds. How much less does the white dog weigh than the black one?

3. Three penguins were rolling balls and 7 were marching around the ring. How many penguins were there altogether?

4. Nine men and 3 women were riding horses. How many fewer women than men were riding?

5. Billy's mother wants to give popcorn to 8 boys. She has 3 bags of popcorn. How many more bags does she need to give one to each boy?

6. Copy the examples below. Find the answers. Then check to see if they are correct.

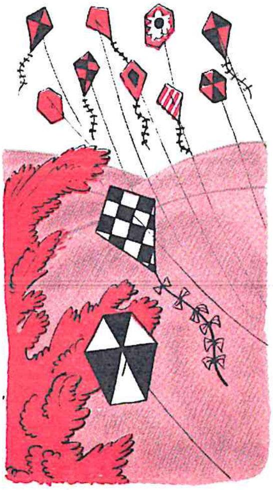
A	B	C	D	E	F	G	H	I	J
2	10	5	2	6	4	6	7	3	2
+5	−9	+5	+6	−3	+5	+4	−4	+6	+7

ADDING AND SUBTRACTING LARGER NUMBERS

1. Six ponies are running in the pasture. Six are standing near a tree. How many ponies are there in all?

2. Twelve ponies were in the pasture. Six ran out the gate. How many ponies were left in the pasture?

3. Two kites were flying near a tree. Nine were flying higher. How many kites were flying in all?



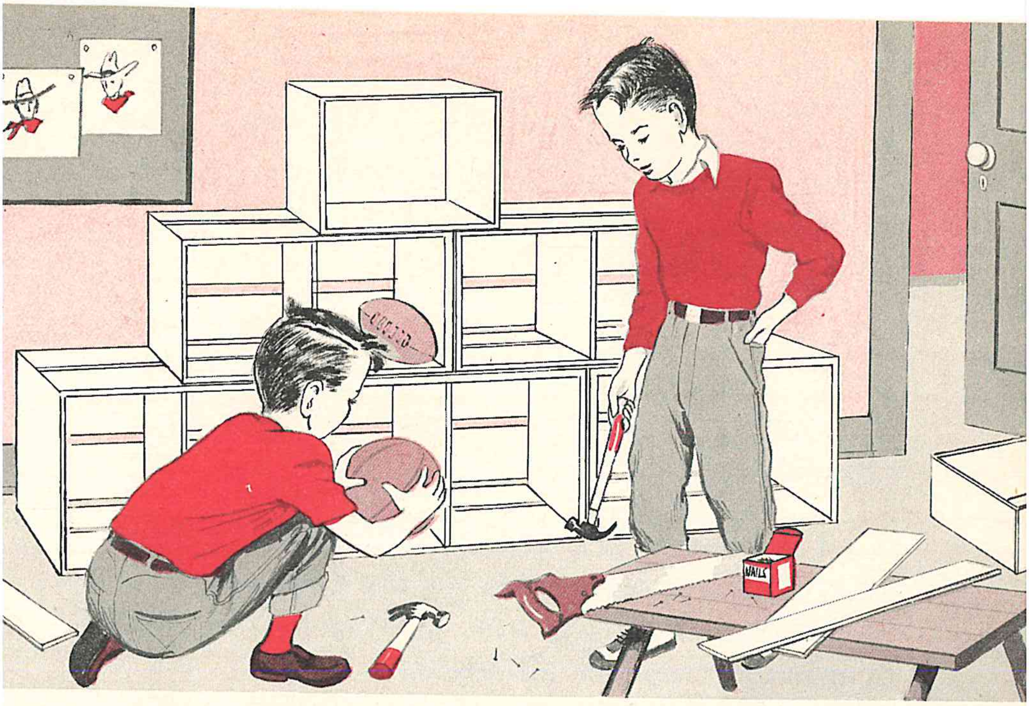
4. Eleven kites were flying. Two kites fell. Then how many kites were flying?

5. Nine boys were flying kites. Two more boys came. How many boys were flying kites then?

6. The boys saved 9 of the 11 kites. The others were torn. How many kites were torn?

Copy and learn the facts below.

$$\begin{array}{r} 6 \\ +6 \\ \hline 12 \end{array} \qquad \begin{array}{r} 12 \\ -6 \\ \hline 6 \end{array} \qquad \begin{array}{r} 9 \\ +2 \\ \hline 11 \end{array} \qquad \begin{array}{r} 2 \\ +9 \\ \hline 11 \end{array} \qquad \begin{array}{r} 11 \\ -9 \\ \hline 2 \end{array} \qquad \begin{array}{r} 11 \\ -2 \\ \hline 9 \end{array}$$



WORKING IN THE PLAYROOM

John and Tom made a cupboard and bookcase for their playroom. They used boxes to build them.

1. They bought 6 apple boxes and 6 orange boxes. How many boxes did they buy altogether?

2. Tom found a large box. He got 9 long boards and 2 short ones from it. How many boards did he get in all?

3. The boys had 12 fruit boxes. They used 6 of them to make a cupboard for their toys. How many boxes did they have left?

4. The cupboard had 11 places for toys. John used 2 places for his football and basketball. How many places were left for toys?

5. John and Tom had 11 toy cars. They put 9 cars on the top shelf of the cupboard. They put the other cars on a lower shelf. How many cars were on the lower shelf?

6. The boys put 2 boxes of checkers, 4 boxes of puzzles, and 2 boxes of dominoes in the cupboard. How many boxes in all did they put in the cupboard?

7. The boys used boards to build their bookcase. They used 2 short boards for the ends and 9 long boards for the back and shelves. How many boards did they use altogether?

8. John put all of the books about animals on one shelf. Two books were about pandas, 3 were about horses, and 4 were about dogs. How many books about animals were there?

Copy the examples below. Write the sums or remainders. Be sure to put the ones in ones' place and the tens in tens' place.

	A	B	C	D	E	F	G	H
9.	6 +6	11 −9	8 +2	12 −6	9 +2	10 −8	11 −2	2 +9
10.	1 4 1	7 2 2	4 2 6	3 1 1	4 5 2	1 1 9	3 3 6	4 1 2

MEASURING CHAIRS

Tom and John wanted to make some chairs for the playroom. They **measured** some chairs at school to find out how high to make them. They used a **foot ruler** with 12 inches marked on it.

▶ An **inch** is the distance from one number to the next on the ruler.

1. Find a ruler in your room. How many inches are there on your ruler? Is it a foot ruler?

2. Tom found a chair that measured 10 inches from the floor to the seat. He said, "This chair is 10 inches high."

Show on a ruler how high the chair was.

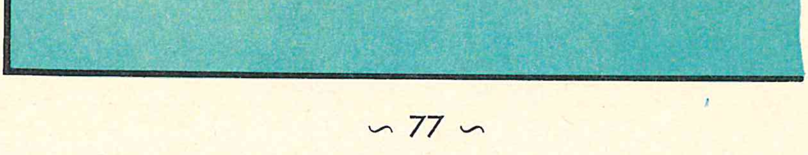
3. John measured some chairs that were a foot high. Show on your ruler how many inches high the chairs were.

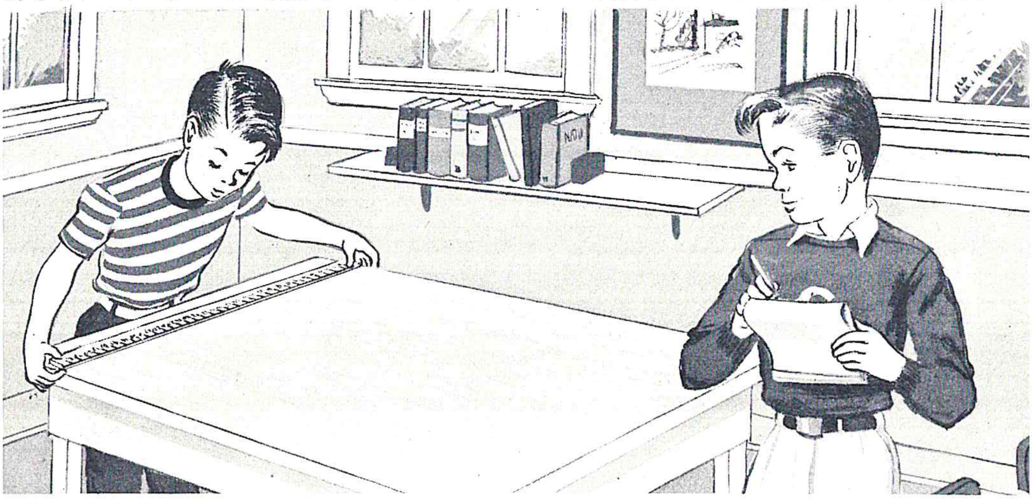
4. Tom said, "Some of our boxes are 10 inches high and some are 12 inches high."

Were the boxes high enough to make chairs for the playroom?

5. Measure the chairs in your room. How high are they?

6. Below is a picture of part of a ruler. Find 2 inches, 3 inches, 4 inches on the ruler.





MEASURING A TABLE

John and Tom wanted to make a playroom table. So they measured a table at school with **a yardstick.**

1. Find 36 inches on a yardstick. How many inches are there in a yard?

2. Now find 12 inches on a foot ruler. How many inches are there in a foot?

3. Measure the yardstick with the foot ruler. How many feet are there in a yard?

4. John measured the table from one side to the other. He said, "The table is 1 yard wide."

How many inches wide was the table?

5. Tom measured the table from one end to the other. He said, "The table is 1 yard and 1 foot long." How many feet long was the table?

▶ Remember: 1 foot = 12 inches
1 yard = 3 feet
1 yard = 36 inches

MAKING A TABLE AND CHAIRS

1. Tom said, "The table at school was a yard and 12 inches long. How many inches is that?"

John wrote the example this way: ⟶ He began at the right and added the ones. He added 6 and 2 and wrote 8 in ones' place in the sum, exactly under the 2.

$$\begin{array}{r}36\\+12\\\hline 48\end{array}$$

Then he added the tens. He added 3 and 1. He wrote 4 in tens' place, exactly under the 1. You see that the sum is 48.

How many inches long was the table?

2. The boys used 73 short nails and 16 long nails to build their table. How many nails altogether did they use for the table?

3. The boys painted a checker board on the table. They painted 32 squares red and 32 squares black. How many squares in all did they paint?

4. Tom counted the nails in the tool chest to see if there were enough left to build the chairs. He counted 85 short nails and 14 long nails. How many nails were there in the tool chest?

5. Copy the examples below. Add, and write the sums. In each example, begin at the right to add.

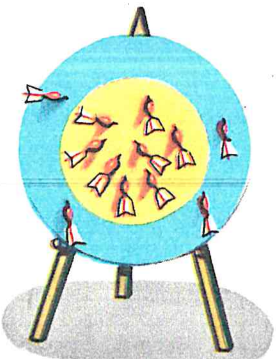
A	B	C	D	E	F	G	H
36	47	15	52	14	64	41	61
+32	+31	+84	+16	+74	+11	+57	+36

OTHER ADDITION AND SUBTRACTION FACTS

1. Alan had 5 pictures of animals and 6 pictures of birds in his playroom. How many pictures did he have in all?

2. Alan gave 5 of his 11 pictures to Tom. How many pictures did Alan have left?

3. Make another problem using addition and one using subtraction about the pictures. Use the numbers 5, 6, and 11.



4. Billy and James played a dart game. Billy hit the yellow circle with 8 darts and the blue one with 4. How many of his darts hit the circles?

5. James threw 12 darts in all. Only 8 of them hit the circles. How many of his darts missed?

6. Make another problem using addition and one using subtraction. Use the numbers 8, 4, and 12.

Copy and learn the facts below.

$$\begin{array}{r} 6 \\ +5 \\ \hline 11 \end{array} \quad \begin{array}{r} 5 \\ +6 \\ \hline 11 \end{array} \quad \begin{array}{r} 11 \\ -6 \\ \hline 5 \end{array} \quad \begin{array}{r} 11 \\ -5 \\ \hline 6 \end{array} \qquad\qquad \begin{array}{r} 8 \\ +4 \\ \hline 12 \end{array} \quad \begin{array}{r} 4 \\ +8 \\ \hline 12 \end{array} \quad \begin{array}{r} 12 \\ -8 \\ \hline 4 \end{array} \quad \begin{array}{r} 12 \\ -4 \\ \hline 8 \end{array}$$

PRACTICING ADDITION AND SUBTRACTION

Say the sums or remainders.

	A	B	C	D	E	F	G	H
1.	11 −9 2	3 +7 10	6 +5 11	12 −8 four	6 +6 12	8 +4 12	10 −9 1	12 −4 8
2.	11 −5 6	12 −6 6	4 +8 12	9 +2 11	11 −6 5	2 +9 11	5 +6 11	11 −2 9

Copy the examples below. Keep the ones in ones' place and the tens in tens' place. Begin at the right in each example and add down.

	A	B	C	D	E	F	G
3.	22 57	43 46	45 13	67 12	51 26	33 53	21 17
4.	2 4 5	2 6 4	1 5 5	2 2 8	3 2 6	4 5 2	4 2 6

THINK AND ANSWER

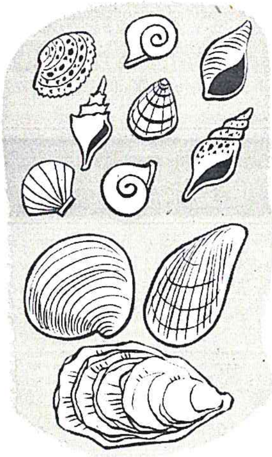
1. Name some things in the room that you think are about a foot high or a foot wide or a foot long. Measure them to see if you were right.

2. What things do we measure by the yard?

3. Make a line on the blackboard about a yard long. Measure it. How long did you make it?

good

FINDING SEA SHELLS

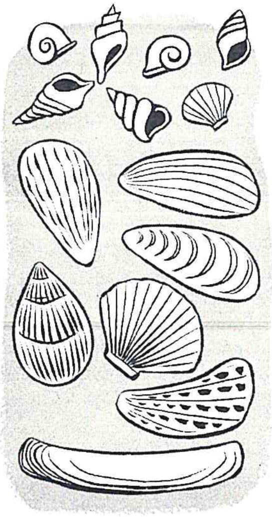


Jane and Susan found some sea shells.

1. Jane found 8 small shells and 3 large ones. How many shells did she find in all?

2. Jane put 8 of the 11 shells in her fish bowl. How many of her shells were left out of the bowl?

3. Make another problem about Jane's shells, using addition. Then make one using subtraction. Use the numbers 3, 8, and 11.



4. Susan said, "I have 7 large shells and 7 small ones."

   How many shells did Susan have altogether?

5. Susan took 7 of the 14 shells to school. How many shells did she leave at home?

Copy and learn the facts below.

$$\begin{array}{r}8\\+3\\\hline 11\end{array}\quad\begin{array}{r}3\\+8\\\hline 11\end{array}\quad\begin{array}{r}11\\-8\\\hline 3\end{array}\quad\begin{array}{r}11\\-3\\\hline 8\end{array}\qquad\quad\begin{array}{r}7\\+7\\\hline 14\end{array}\quad\begin{array}{r}14\\-7\\\hline 7\end{array}$$

PRACTICING ADDITION AND SUBTRACTION

Read each problem below. Then decide what you should do to find the answer to the question that is asked in the problem. Write the answer.

1. Three yellow kittens, 5 gray ones, and 3 black ones were playing on a box. How many kittens were playing on the box?

2. Alan and Billy have 4 games and 10 toys. How many fewer games than toys do they have?

3. One day 8 girls were playing together. They had only 4 dolls. How many more dolls did they need so that each girl might have one?

4. Helen spent 3¢ and Mary spent 9¢. How much less did Helen spend than Mary?

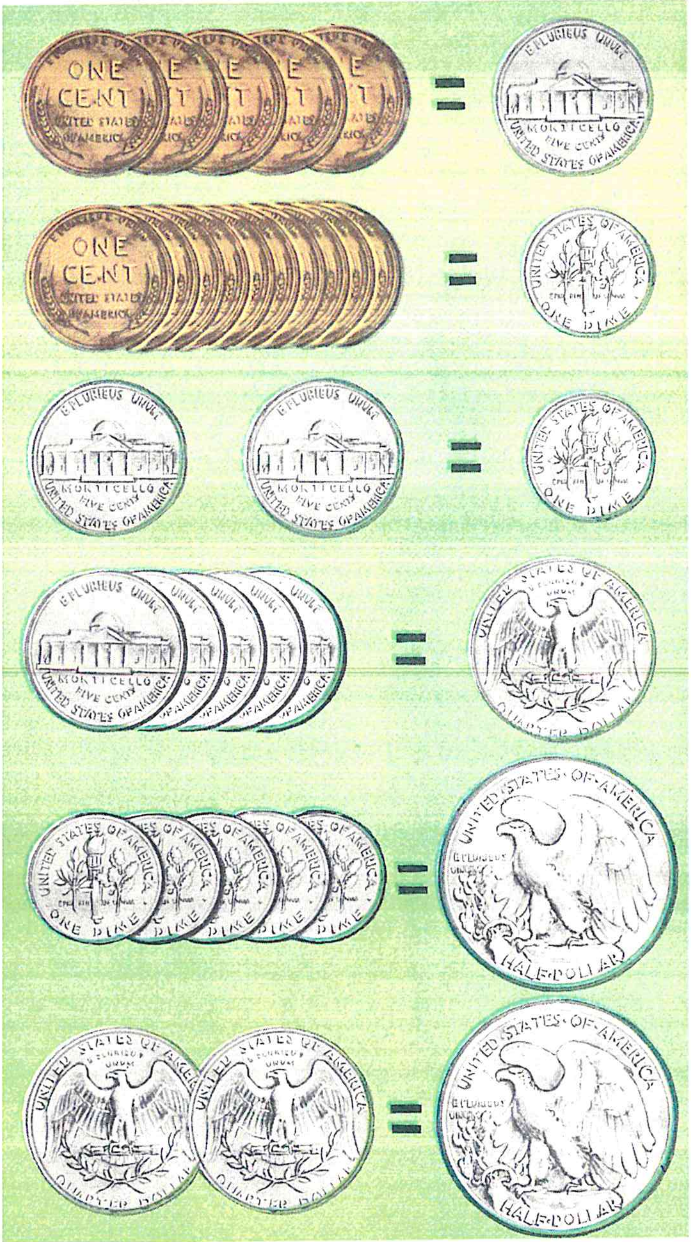
5. Eight boys were playing tag. Another boy came to play. How many were playing then?

Copy the examples below. Add or subtract as the signs tell you. Check your work.

	A	B	C	D	E	F	G	H
6.	8 +3	11 −9	11 −5	7 +7	12 −4	9 +2	3 +8	11 −6
7.	11 −3	8 +4	14 −7	12 −8	6 +5	4 +8	11 −8	5 +6
8.	52 +14	61 +22	54 +43	62 +15	72 +26	42 +13	62 +37	43 +54

LEARNING ABOUT MONEY

1. Tell how many cents each piece of money below is worth. What is another way of saying **one cent? five cents? ten cents? twenty-five cents? fifty cents?**



2. How many pennies equal a nickel?

3. How many pennies equal a dime?

4. How many nickels equal a dime?

5. How many nickels equal a quarter?

6. How many dimes equal a half-dollar?

7. How many quarters equal a half-dollar?

QUESTIONS ABOUT MONEY

Read these problems. Write the answers.

1. Alan had a dime and four pennies in his bank. How much money did he have?

2. James bought a knife for 23¢. How many dimes and pennies did he pay for it?

3. Helen has 8 dimes in her dime bank. How much money does she have?

4. Mary bought a pencil for 6¢. She gave the storekeeper a dime. How much change should she get?

5. John had a quarter and 14 pennies in his bank. Think how much money a quarter is. Add to find how much money he had altogether.

6. Billy said, "Please give me dimes for this half-dollar."

How many dimes should Billy get?

Copy the examples below. Write one number under the other, this way: →
Write the answers. Add or subtract again to check your work.

A	B
$\begin{array}{r} 14 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 37 \\ +42 \\ \hline \end{array}$

	A	B	C
7.	14 − 7	37 + 42	11 − 8
8.	11 − 2	76 + 12	11 − 3
9.	12 − 4	64 + 35	3 + 8
10.	7 + 7	43 + 35	11 − 5

FOLLOWING DIRECTIONS

On this page there are no signs to tell you to add or subtract. The sentences tell you what to do. These sentences are called **directions.** Read the directions, and do what they tell you to do.

Fold a paper under these examples. Subtract, and write the remainders on the paper.

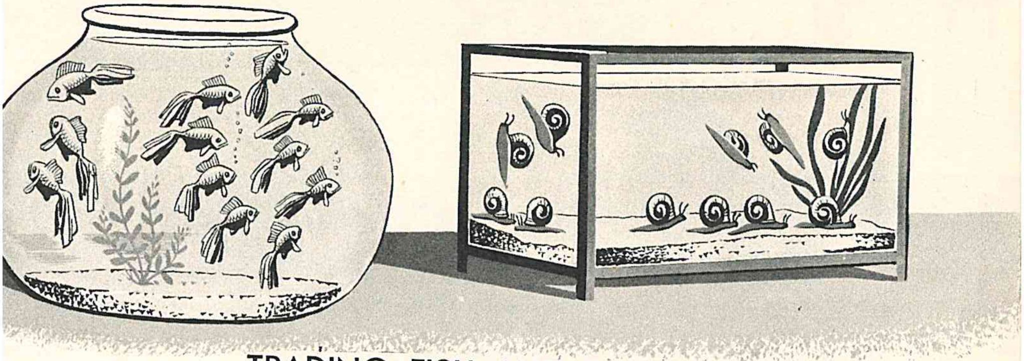
	A	B	C	D	E	F	G	H
1.	11 2	10 7	11 5	9 5	11 8	12 4	10 9	11 3
2.	11 6	9 7	11 9	10 3	12 6	10 2	14 7	12 8

Add, and write the sums on folded paper.

3.	8 3	5 6	7 3	8 2	7 7	6 5	4 8	8 4

Copy the examples below. Add, and write the sums. Then add again to check.

4.	82 15	57 42	44 42	32 52	35 62	61 23	64 15	51 34
5.	5 1 6	8 1 2	7 1 4	3 3 5	1 3 2	1 4 6	5 3 3	3 4 7



TRADING FISH AND SNAILS

Alan had more fish than he wanted in his fish bowl. He traded some of them to Tom for snails.

Read the problems below to find how they traded. Say the answers to the questions.

1. Alan traded 3 of his 12 fish to Tom for some snails. How many fish did Alan have left?

2. Tom had 9 fish. He got 3 more from Alan. Then how many fish did Tom have?

3. At first Alan had 12 fish. After he traded with Tom, he had 9 left. How many fewer fish did Alan have after he traded?

4. Tom had 11 snails. He gave 4 to Alan. How many snails did Tom have left?

5. Alan had 7 snails. He got 4 more from Tom. How many snails did Alan have then?

Copy and learn the facts below.

$$\begin{array}{r} 9 \\ +3 \\ \hline 12 \end{array} \quad \begin{array}{r} 3 \\ +9 \\ \hline 12 \end{array} \quad \begin{array}{r} 12 \\ -9 \\ \hline 3 \end{array} \quad \begin{array}{r} 12 \\ -3 \\ \hline 9 \end{array} \qquad\qquad \begin{array}{r} 7 \\ +4 \\ \hline 11 \end{array} \quad \begin{array}{r} 4 \\ +7 \\ \hline 11 \end{array} \quad \begin{array}{r} 11 \\ -7 \\ \hline 4 \end{array} \quad \begin{array}{r} 11 \\ -4 \\ \hline 7 \end{array}$$

STORIES AND PICTURES ABOUT SAFETY

The children are making a book about safety. Read the problems and answer the questions.

1. The girls wrote 3 stories about safety in the schoolroom and halls. The boys wrote 9 stories about safety on the playground. How many stories did they write in all?

2. The girls were to write 12 stories in all. But they have written only 3 of them. How many more stories do they have to write?

3. Miss Martin said, "The boys have done well. They have written 9 of their 12 stories."

How many more stories do the boys have to write?

4. Jane said, "We have made 4 small pictures and 7 large ones for the book."

How many pictures have they made in all?

5. Tom said, "We have made 11 rules about safety. We have copied only 4 of them."

How many more rules do they have to copy?

SUBTRACTING TWO-PLACE NUMBERS

1. Miss Martin said, "We have 48 pages in our safety book, but we have only enough stories and pictures to fill 23 pages. How many more pages do we have left to fill?"

Susan wrote the example. Then she began at the right to subtract. She thought, "3 from 8 equals 5." She wrote the 5 in ones' place in the answer, exactly under the 3.

$$\begin{array}{r} 48 \\ -23 \\ \hline 5 \end{array}$$

Then she subtracted the tens. She thought, "2 from 4 equals 2." She wrote the 2 in tens' place in the answer, exactly under the 2. She said, "We have 25 pages left to fill."

$$\begin{array}{r} 48 \\ -23 \\ \hline 25 \end{array}$$

2. John said, "We are making 11 safety rules for the book. They will fill 11 of the 25 pages. How many pages do we still have to fill?"

Write the example this way: ⟶ Subtract the ones first. Then subtract the tens. What is the answer to the question?

$$\begin{array}{r} 25 \\ -11 \\ \hline \end{array}$$

3. Copy the examples below and subtract.

A	B	C	D	E	F	G
56	64	98	67	95	47	94
−21	−43	−27	−32	−74	−13	−12

MAKING SURE OF ADDITION AND SUBTRACTION

Fold a paper under these examples. Add or subtract as the signs tell you. Write the answers. Do not guess. If there are any you do not know, copy and learn them. You can find them on page 74, 80, 82, or 87.

	A	B	C	D	E	F	G
1.	12 −9	6 +6	7 +4	11 −8	12 −3	11 −4	2 +9
2.	11 −5	4 +7	3 +9	11 −7	12 −4	11 −2	8 +4
3.	12 −8	3 +8	7 +7	9 +3	12 −6	8 +3	6 +5
4.	14 −7	4 +8	9 +2	11 −6	11 −9	5 +6	11 −3

Copy the examples below, then write the answers. Check your work. If you miss any examples, turn to the pages given at the right and learn how to do them.

	A	B	C	D	E	F	
5.	53 +31	41 +57	62 +25	52 +42	61 +13	82 +16	79
6.	84 −53	79 −51	99 −75	79 −38	74 −42	98 −43	89

ADDITION AND SUBTRACTION FACTS ABOUT ELEVEN

Judy and Jane played an arithmetic game. They placed stars in groups of eleven to show addition and subtraction facts about 11.

Tell what number belongs in each blank.

★ ★ ★ ★ ★ ★ ★ ★ ★   ★ ★ $9 + 2 = ?$
★ ★ ★ ★ ★ ★ ★ ★   ★ ★ ★ $8 + 3 = ?$
★ ★ ★ ★ ★ ★ ★   ★ ★ ★ ★ $7 + 4 = ?$
★ ★ ★ ★ ★ ★   ★ ★ ★ ★ ★ $6 + 5 = ?$
★ ★ ★ ★ ★   ★ ★ ★ ★ ★ ★ $5 + 6 = ?$
★ ★ ★ ★   ★ ★ ★ ★ ★ ★ ★ $4 + 7 = ?$
★ ★ ★   ★ ★ ★ ★ ★ ★ ★ ★ $3 + 8 = ?$
★ ★   ★ ★ ★ ★ ★ ★ ★ ★ ★ $2 + 9 = ?$

1. Write the addition facts with sums of 11.

2. Say the number that is missing in each example. Then write the subtraction facts about 11.

A. $11 - 9 = ?$ $11 - 8 = ?$ $11 - 7 = ?$ $11 - 6 = ?$
B. $11 - 5 = ?$ $11 - 4 = ?$ $11 - 3 = ?$ $11 - 2 = ?$

3. Tell what number is missing in each example.

A. $3 + ? = 11$ $5 + ? = 11$ $8 + ? = 11$ $4 + ? = 11$
B. $2 + ? = 11$ $7 + ? = 11$ $6 + ? = 11$ $9 + ? = 11$
C. $11 - ? = 7$ $11 - ? = 9$ $11 - ? = 6$ $11 - ? = 2$
D. $11 - ? = 8$ $11 - ? = 4$ $11 - ? = 5$ $11 - ? = 3$

SAVING AND SPENDING MONEY

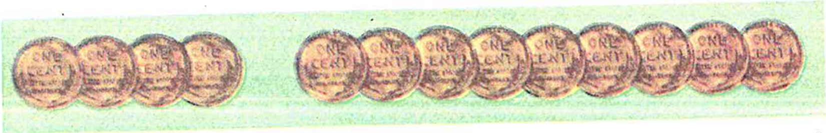
Tom and Billy saved money to buy gifts. Read the problems and say the answers.

1. Tom saved 7¢ last week and 5¢ the week before. How much money did he save in all?

2. Tom had 12¢. He spent 7¢ for a pencil. How much money did he have left?

3. Tom saw a rubber ball for 5¢ and jacks for 7¢. How much will they cost together?

4. Tom now has 5¢. He wants to buy a gift that costs 12¢. How much more money does he need?



5. Billy saved 4¢ last week. He earned 9¢ the week before. How much money did he have altogether?

6. Billy had 13¢. He spent 4¢ for stamps. How much money does he have left?

7. Billy wants to buy a puzzle that costs 13¢. He has 9¢. How much more money does he need?

Copy and learn the facts below.

$$\begin{array}{r} 7 \\ +5 \\ \hline 12 \end{array} \quad \begin{array}{r} 5 \\ +7 \\ \hline 12 \end{array} \quad \begin{array}{r} 12 \\ -7 \\ \hline 5 \end{array} \quad \begin{array}{r} 12 \\ -5 \\ \hline 7 \end{array} \qquad \begin{array}{r} 9 \\ +4 \\ \hline 13 \end{array} \quad \begin{array}{r} 4 \\ +9 \\ \hline 13 \end{array} \quad \begin{array}{r} 13 \\ -9 \\ \hline 4 \end{array} \quad \begin{array}{r} 13 \\ -4 \\ \hline 9 \end{array}$$

LEARNING ABOUT A DOZEN

Mary and Susan were having a party. They asked ten children to come.

Susan said, "Ten and two more are twelve. With the two of us, there will be twelve children."

"Yes," said Mary, "we must have a dozen of everything. Twelve things make a dozen."

The girls made this list of things they would need:

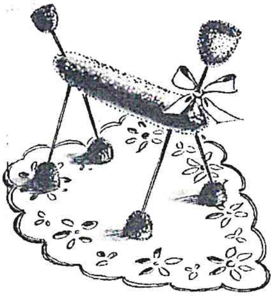
1 dozen paper cups
1 dozen funny hats
1 dozen nut cups
1 dozen napkins
1 dozen plates
1 dozen favors

1. Name two fruits that we buy by the dozen.
2. Name another food that we buy by the dozen.

▶ Remember: 12 things = 1 dozen

PLANS FOR THE PARTY

Mary and Susan are making candy favors for each child. Each favor will look like the picture.



1. Mary said, "We can use candy and toothpicks. Each favor takes 1 long gum drop for the body, 2 round ones for the head and tail, and 4 round ones for the feet."

How many gum drops are needed for one favor?

2. Susan said, "We need 4 toothpicks for the legs, 1 for the neck, and 1 for the tail."

How many toothpicks do they need for each favor?

3. The girls have made 3 of the favors. How many more must they make to have 12?

4. Susan is making the napkins. She said, "We need 12 napkins, but I have made only 8."

How many more napkins must Susan make?

5. Mary made 6 caps and Susan made 6. How many caps did they make in all?

6. Susan made 9 nut cups. How many fewer than a dozen is 9?

7. Mary made 7 mats for the table and Susan made 5. How many have they made altogether?

ADDING COLUMNS OF TWO-PLACE NUMBERS

1. Susan's mother made three dozen cookies for the party. How many are three dozen?

Susan wrote the example this way: ⟶ She began at the right and added the figures in the ones' column. She added 2 and 2 and thought 4. Then she added 4 and 2 and thought 6. She wrote 6 in ones' place in the sum, exactly under the 2.

$$\begin{array}{r}12\\12\\\underline{12}\\36\end{array}$$

Then she added the figures in the tens' column. She thought, 1 and 1 are 2; 2 and 1 are 3. She wrote the 3 in tens' place in the sum, exactly under the 1.

How many cookies did Susan's mother make?

2. Copy these examples. Be careful to keep the columns straight. Add, and write each figure in the sum in the correct place.

A	B	C	D	E	F
52	11	21	31	21	41
22	31	43	22	11	33
14	54	32	31	62	21

3. Copy these examples. Subtract, and write the remainders.

89	58	97	97	69	86
63	34	62	85	32	74

MAKING A BOOK FOR THE PARTY

Mary and Susan made a party book for the children to write their names in. They used a ruler to measure the paper. The ruler had inches and half-inches marked on it.

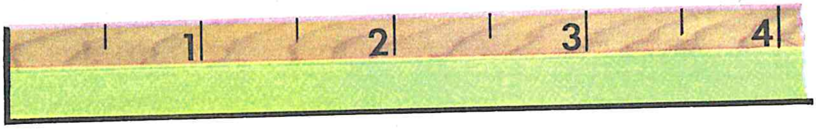
1. Find the half-inch marks between the inch marks on the ruler below. Find one and one-half inches. Find three and one-half inches.

2. The pages for the book measure eight and one-half inches wide and eleven inches long. Find eight and one-half inches on your ruler; 11 inches.

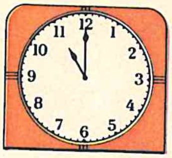
3. The blue paper for the cover was 12 inches long and 9 inches wide. Measure a piece of colored paper. How long is it? How wide is it?

4. The children found that the cover for the book should be eleven and one-half inches long. Measure eleven and one-half inches on a piece of paper. Cut the paper to make it that size.

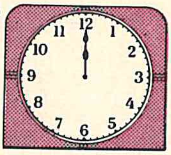
5. Draw a line four and one-half inches long. Then draw a line six and one-half inches long.



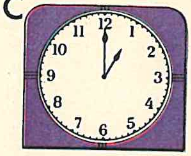
A



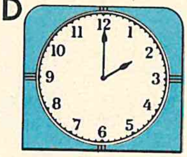
B



C



D



HOURS AND HALF-HOURS

Mary looked at the clock. It looked like Clock A. The long hand was at 12 and the short hand pointed to 11. Mary said, "It is 11 o'clock."

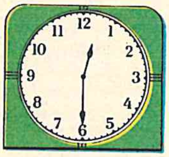
▶ The short hand is the **hour hand.** It tells the time by hours. It takes one hour for the hour hand to go from one number to the next.

1. The long hand points to 12 on each clock above. To what number does the hour hand point?

2. What time is shown by each clock above?

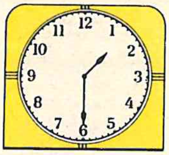
3. When the long hand points to 6, it is half past the hour. On Clock E the hour hand is halfway between 12 and 1. It has passed the 12. What time is it?

E



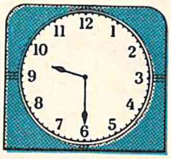
4. To what does the long hand point on Clock F? What number has the hour hand passed? What time is shown?

F

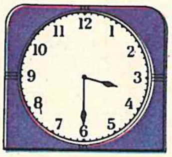


5. What time is shown by each clock below?

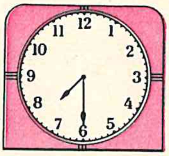
G



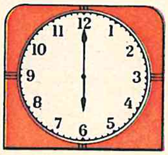
H

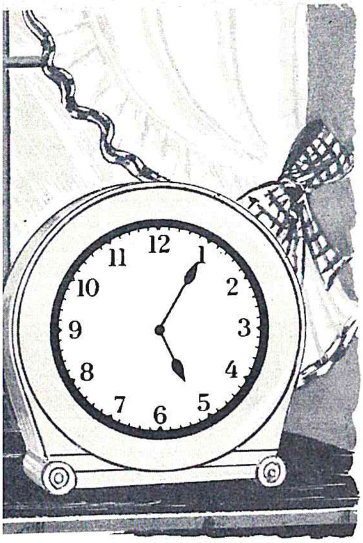


I



J





HOURS AND MINUTES

When the party was over, Mother asked, "How much past 5 o'clock is it?"

Mary said, "The long hand is at 1 and the hour hand has passed 5."

Mother said, "Then it is 5 minutes past 5."

▶ The **long hand** on the clock is the **minute hand.** The little marks between the numbers show the minutes. The long hand takes one minute to go from one mark to the next, and five minutes to go from one number to the next.

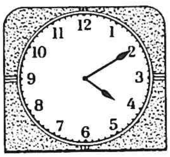
1. Begin at 12 and count by 5's around the clock to 12 again. At 1 say 5; at 2 say 10, and so on. What is the last number you say?

▶ The minute hand takes 60 minutes to go around the clock's face once. While the minute hand goes around the clock's face once, the hour hand goes from one number to the next.

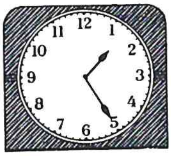
▶ Remember: **60 minutes = 1 hour**

2. Count by 5's from 12 to the minute hand on each clock below. Tell what time each clock shows.

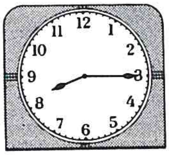
A



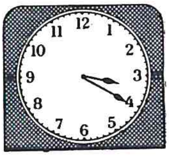
B



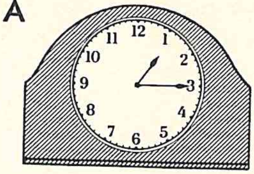
C



D

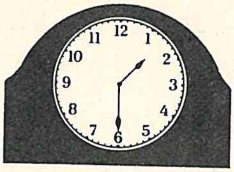


A



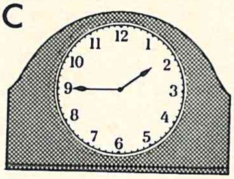
PAST THE HOUR

B



HALF PAST THE HOUR

C



TO THE HOUR

3. Look at Clock **A.** Which number has the hour hand just passed? Count the minutes by 5's between the 12 and the 3. What time does the clock show?

4. Look at Clock **B.** Where are the hour and minute hands? What time do they show?

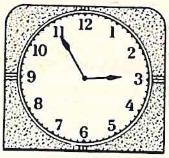
5. Look at Clock **C.** Which number has the hour hand almost reached? Where is the minute hand? Has it passed the 6? Count the minutes by 5's between the 9 and the 12 on the clock face.

▶ When the minute hand has passed the 6 on the clock face, we count the minutes **to** the next hour.

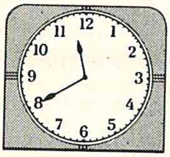
How many minutes to 2 does Clock **C** show?

6. Tell what time each of these clocks shows:

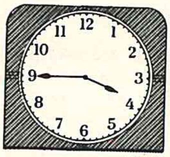
D



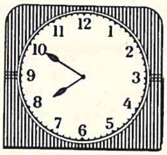
E



F



G

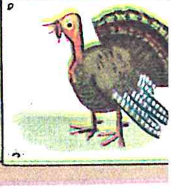


7. Make four clocks to show:

A. when school begins in the morning
B. when school ends in the morning
C. when school begins in the afternoon
D. when school ends in the afternoon

NOVEMBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				



DAYS, WEEKS, AND MONTHS

The children made a **calendar** to show the days and weeks in a month.

1. Find the figure 1 on the calendar. It shows the first day of the month. On what day of the week does November begin?

2. On what day of the week does November end?

3. On this calendar, the first Sunday in November is the seventh day of the month. We say that the **date** is November 7. What are the dates of the other Sundays?

4. Read the dates for the Tuesdays and the Thursdays on this calendar.

5. Find these dates: November 15, 23, 27, 19, and 28. On what days do they come?

6. How many days are there in a week? Read the names of the days of the week.

7. Name the first and last days of the week.

8. Look at a calendar for this year. Make a calendar for your birthday month. Draw a circle around the date of your birthday.

KEEPING IN PRACTICE

1. Read these numbers:

A	B	C	D
154	397	500	410
405	403	318	108
330	200	421	479

Tell which is the largest number and which is the smallest number in Column A; in Column B; in Column C; in Column D. Tell how many hundreds, tens, and ones there are in each number.

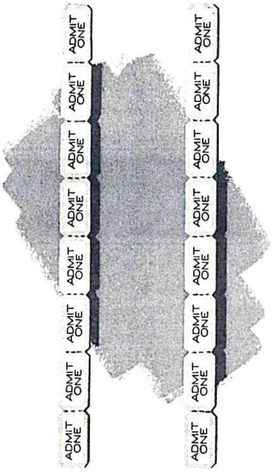
2. Write numbers for these number words:

A. two hundred forty-two
B. four hundred ten
C. three hundred eight
D. ninety-six
E. two hundred
F. fifty-two

Copy the examples below. Make the figures the same size, and keep the columns straight. Add or subtract, and write the answers. Place each figure where it belongs in the answer.

	A	B	C	D	E	F	G
3.	98 −31	47 +41	87 −62	35 +61	89 −71	31 +26	83 −52
4.	87 −26	96 −42	33 +52	51 +38	87 −31	32 +43	73 −41
5.	33 11 14	35 31 21	15 61 13	52 21 25	21 34 24	11 52 32	21 25 31

SELLING TICKETS FOR THE BALL GAME



The boys sold tickets for the ball game. Read the problems and answer the questions.

1. John sold 8 tickets in the morning and 8 in the afternoon. How many tickets in all did he sell?

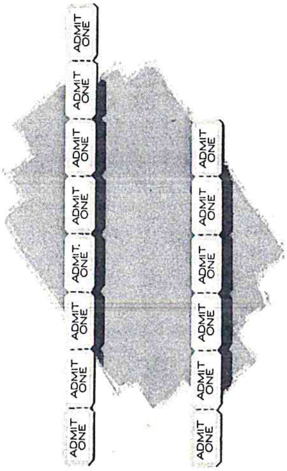
2. Tom sold only 8 tickets. John sold 16. How many fewer did Tom sell than John?

3. James sold 8 tickets one day and 6 tickets the next day. How many tickets did James sell?

4. Billy sold 6 tickets one day and 8 tickets the next. How many tickets did Billy sell?

5. Billy sold 14 tickets. Tom sold 8. How many fewer tickets did Tom sell than Billy?

6. Alan sold 6 tickets. Billy sold 14. How many fewer did Alan sell than Billy?



Copy and learn the facts below.

$$\begin{array}{r} 8 \\ +8 \\ \hline 16 \end{array} \qquad \begin{array}{r} 16 \\ -8 \\ \hline 8 \end{array} \qquad\qquad \begin{array}{r} 8 \\ +6 \\ \hline 14 \end{array} \qquad \begin{array}{r} 6 \\ +8 \\ \hline 14 \end{array} \qquad \begin{array}{r} 14 \\ -8 \\ \hline 6 \end{array} \qquad \begin{array}{r} 14 \\ -6 \\ \hline 8 \end{array}$$

RING TOSS PRACTICE

1. One day the boys played two games of ring toss. These are the points they made. Find each boy's score.

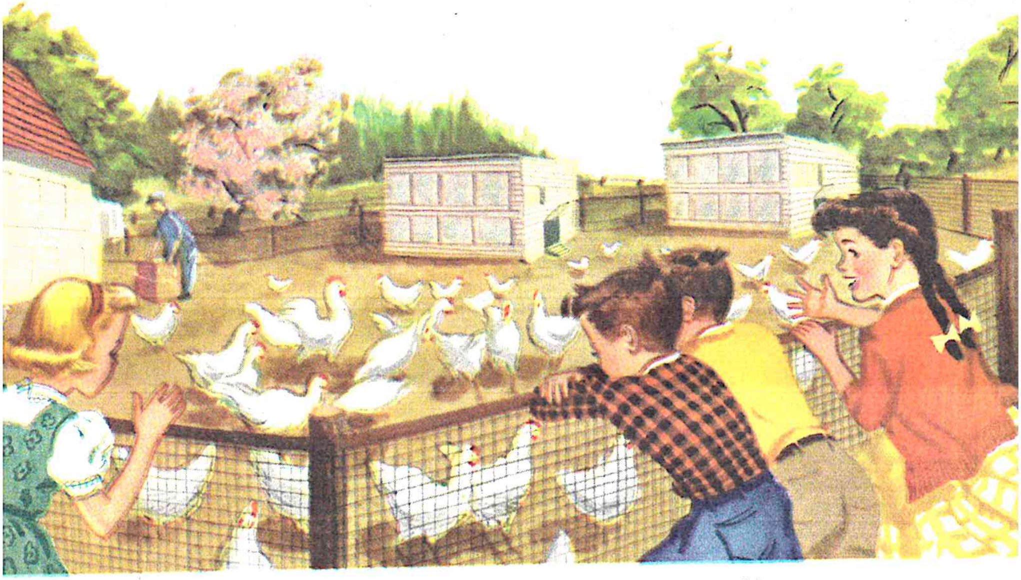
	JOHN	JAMES	ALAN	BILLY	TOM
First game	6	9	8	3	5
Second game	+8	+4	+8	+9	+7
Score					

2. Then each boy tossed a ring twelve times. Sometimes the boys missed. Find how many points each boy scored.

	JOHN	JAMES	ALAN	BILLY	TOM
Throws	12	12	12	12	12
Misses	−5	−3	−4	−7	−9

Copy the examples below. Add or subtract, and write the answers.

	A	B	C	D	E	F	G	H
3.	13	7	14	4	8	11	14	7
	−9	+5	−6	+9	+6	−4	−8	+4
4.	12	4	16	9	3	11	13	7
	−6	+7	−8	+3	+8	−7	−4	+7



A VISIT TO A CHICKEN FARM

The children in the third grade went on a trip to visit a chicken farm. The next day they wanted to find the answers to some questions about the things they had seen.

Read each problem and find the answer to the question that is asked.

1. There were 84 hens in one chicken house and 83 in another. How many hens were there in the two chicken houses?

Susan wrote the example this way: ⟶ She began at the right and added the 4 and 3. She thought 7 and wrote it exactly under the 3. She added 8 and 8 and thought 16. She wrote the 6 exactly under the 8, and the 1 to the left of the 6.

$$\begin{array}{r} 84 \\ 83 \\ \hline 167 \end{array}$$

How many hens were there altogether?

2. The farmer gathered 62 eggs from one chicken house and 65 from the other. How many eggs did he gather from the two chicken houses?

Write the example with the 65 exactly under the 62. Begin at the right and add. Place each figure in the sum just where it belongs.

```
 62
 65
___
```

3. The children saw 84 baby chicks in the yard and 64 in a feeding pen. How many baby chicks did they see altogether?

4. They counted 21 bags of corn, 16 bags of wheat, and 12 bags of bone meal in the barn. How many bags of feed did they count?

Copy the examples below and add. Write each figure in exactly the right place in the sum. Check each answer by adding again.

	A	B	C	D	E	F	G	H
5.	94 34 128	76 53 129	37 92	95 42	53 73	63 84	43 95	84 82
6.	87 41	92 23	73 46	68 51	32 94	45 74	32 87	25 93
7.	31 13 53	42 21 31	21 64 11	41 14 12	42 21 12	32 42 21	34 22 12	11 26 42

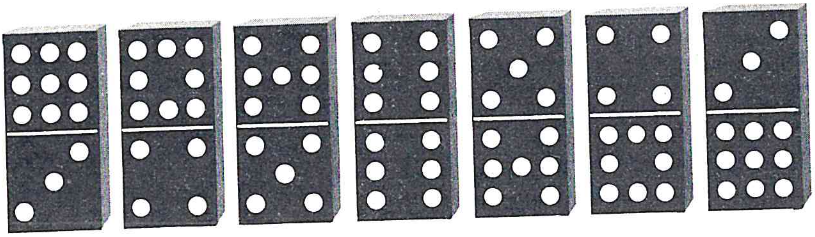
Read the sums you wrote and tell how many hundreds, tens, and ones there are in each.

ADDITION AND SUBTRACTION FACTS ABOUT TWELVE

John and Tom had some dominoes. John said, "I see an addition example on this domino."

Tom said, "Let's see how many we can find."

Read the examples they found. Say the sums.



9	8	7	6	5	4	3
+3	+4	+5	+6	+7	+8	+9

1. Write the addition facts with sums of 12.

2. Say the number that is missing in each example. Then write the subtraction facts about 12.

A. $12-9=?$ $12-8=?$ $12-7=?$ $12-6=?$

B. $12-5=?$ $12-4=?$ $12-3=?$

3. Tell what number is missing in each example.

A. $9+?=12$ $6+?=12$ $7+?=12$ $4+?=12$

B. $5+?=12$ $3+?=12$ $8+?=12$

C. $12-?=9$ $12-?=6$ $12-?=4$ $12-?=7$

D. $12-?=8$ $12-?=3$ $12-?=5$

4. Tell what words are missing in each row.

A. 12 inches = 1 ?. 12 things equal 1 ?.

B. 12 equals ? ten and ? ones.

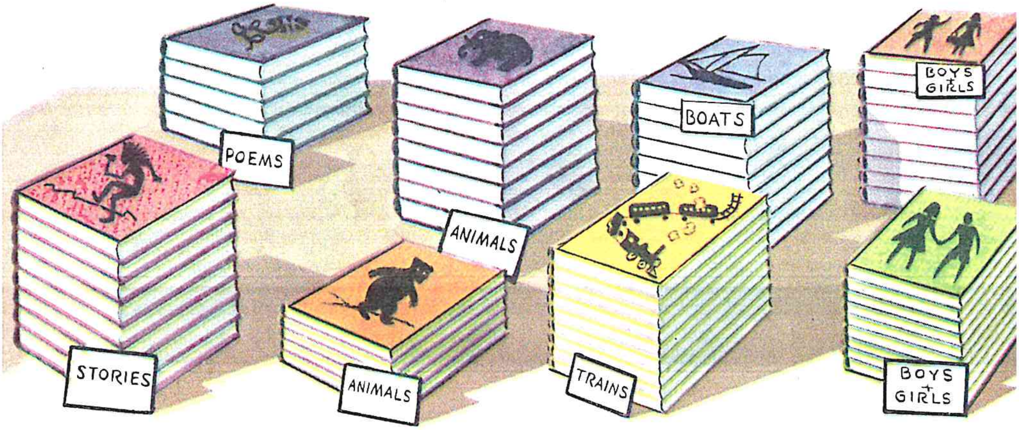
MAKING SURE OF ADDITION AND SUBTRACTION

Fold a paper under the examples in Rows **1**, **2**, and **3**, and find the answers. Check your work. If you miss any, turn to the pages given at the ends of the rows. Learn how to do the examples.

	A	B	C	D	E	F	
1.	85 −23	99 −26	79 −64	89 −35	86 −54	97 −84	**89**
2.	85 +64	93 +25	76 +73	75 +43	63 +52	23 +96	**104** **105**
3.	15 71 12	33 21 42	62 25 11	11 32 43	12 11 54	46 41 12	**95**

Copy the examples below. Add or subtract, and write the answers. Check your work.

	A	B	C	D	E	F	G
4.	13 −4	98 −34	37 +42	16 −8	91 +45	10 −4	32 +36
5.	86 −62	10 −8	42 +44	96 −65	27 +31	14 −8	84 +83
6.	10 −7	46 +91	32 +56	10 −6	75 −32	64 +85	85 −24



BOOKS FOR THE LIBRARY HOUR

The children put books on a table for the library hour. Read each problem and say the answer.

1. There are 8 story books and 5 books of poems. How many books are in the two stacks?

2. They have 13 books about animals, but the fourth grade wants to borrow 8 of them. How many books about animals will they have left?

3. Nine books are about trains and 9 are about boats. How many books about boats and trains are there altogether?

4. They have 18 books about boys and girls, but 9 of them must be taken back to the library. How many will be left in the third-grade room then?

Copy and learn the facts below.

$$\begin{array}{r} 8 \\ +5 \\ \hline 13 \end{array} \qquad \begin{array}{r} 5 \\ +8 \\ \hline 13 \end{array} \qquad \begin{array}{r} 13 \\ -8 \\ \hline 5 \end{array} \qquad \begin{array}{r} 13 \\ -5 \\ \hline 8 \end{array} \qquad\qquad \begin{array}{r} 9 \\ +9 \\ \hline 18 \end{array} \qquad \begin{array}{r} 18 \\ -9 \\ \hline 9 \end{array}$$

HELPING IN THE LIBRARY

Mary and Helen are helping in the library. Read the problems and write the answers. Be sure that what you write answers the questions.

1. Mary found 5 books about toys, and 8 about pets. How many books of these kinds did she find?

2. Helen found 18 books about airplanes for the second grade. Miss White put 9 of them back on the shelf because they were too hard. How many books did Helen give to the second grade?

3. Billy came for books about animals. Mary and he found 4 picture books and 9 story books about animals. How many books did Billy get?

4. Miss White found 13 books about travel for the fourth grade. The teacher did not take 5 of them because the children had read them. How many books did she take?

5. Miss White sent 13 books about farms to the fifth grade. They had read all but 9 of the books. How many had they read?

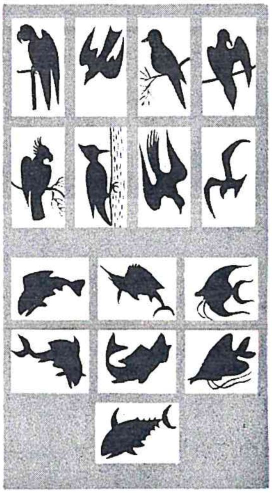
6. The sixth grade took 14 books about other lands. They returned 6 books. How many did they keep?

COLLECTING PICTURE CARDS

1. Billy had 9 pictures of dogs and 5 pictures of horses. How many pictures did he have?

2. Billy had 14 pictures. He gave 9 of them to Tom. How many pictures did Billy have left?

3. Tom had 5 pictures. Billy gave him 9 more. How many pictures did Tom have then?



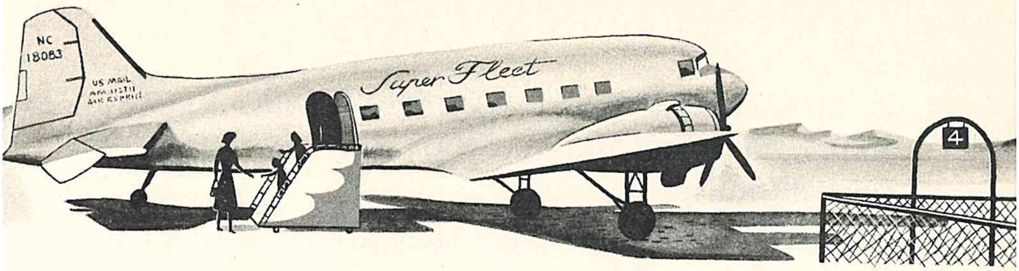
4. James had 8 pictures of birds and 7 pictures of fish. How many pictures did he have?

5. James had 15 pictures. He gave 8 of them to Alan. How many pictures did James have left?

6. Alan had 7 pictures. James gave him 8 more. How many pictures did Alan have then?

Copy and learn the facts below.

$$\begin{array}{r} 8 \\ +7 \\ \hline 15 \end{array} \quad \begin{array}{r} 7 \\ +8 \\ \hline 15 \end{array} \quad \begin{array}{r} 15 \\ -8 \\ \hline 7 \end{array} \quad \begin{array}{r} 15 \\ -7 \\ \hline 8 \end{array} \qquad \begin{array}{r} 9 \\ +5 \\ \hline 14 \end{array} \quad \begin{array}{r} 5 \\ +9 \\ \hline 14 \end{array} \quad \begin{array}{r} 14 \\ -9 \\ \hline 5 \end{array} \quad \begin{array}{r} 14 \\ -5 \\ \hline 9 \end{array}$$



THE AIRPLANE TRIP

Mother, Jane, and Helen were traveling by airplane to visit Grandmother.

Read the problems and find the answers to the questions.

1. Grandmother lives 159 miles away. The plane made a stop when they had gone 74 miles. How many more miles did they have to go?

Write the example this way: ——→ Begin at the right and subtract the ones. Think, 4 from 9 is 5. Write the 5 in ones' place in the remainder, exactly under the 4. Then subtract 7 from 15. Think 8. Write the 8 in tens' place exactly under the 7. Now answer the question in Problem **1.**

$$\begin{array}{r}159\\74\\\hline 85\end{array}$$

2. When the plane took off again, one boy still had 137 miles to go. Helen had only 85 miles to go. How many more miles did the boy go than Helen?

Write the example this way: ——→ Subtract the ones. What should you write in ones' place in the answer? Subtract 8 from 13. What should you write in tens' place in the answer? Now answer the question in Problem **2.**

$$\begin{array}{r}137\\85\\\hline\end{array}$$

3. Mother said, "We are going 159 miles by plane today. The last time we had a plane ride we went only 82 miles."

How much farther were they going on this trip?

4. Jane said, "The last time we went to visit Grandmother we went in the car. We drove 87 miles before lunch and 92 miles after lunch."

How far was it to Grandmother's by car?

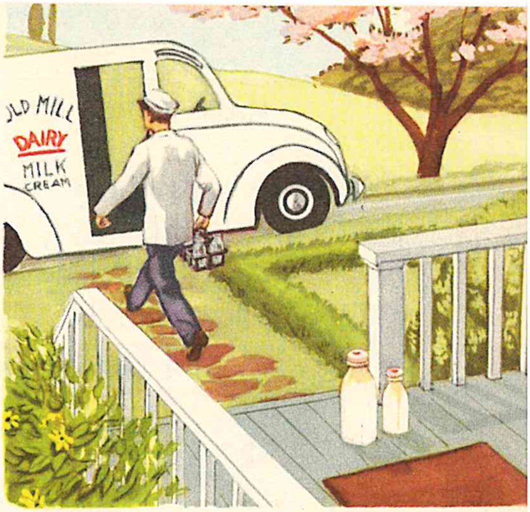
5. Mother and the girls arrived at Grandmother's house at half past ten. Make a picture of a clock to show the time when they arrived.

Copy the examples below. Be sure to put the ones in ones' place, the tens in tens' place, and the hundreds in hundreds' place. Add or subtract, and write the answers. Check your work.

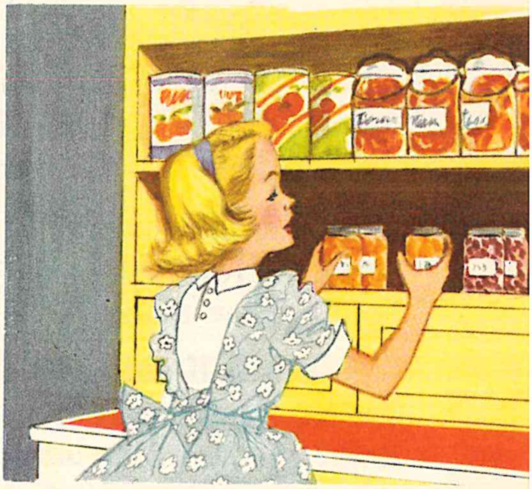
	A	B	C	D	E	F
6.	82 +77 159	86 +52 138	53 +94 147	55 +83 138	73 +83 156	95 +54 149
7.	53 +82 135	37 +91 128	91 +28 119	82 +53 135	94 +92 186	53 +75 128
8.	184 −91 93	137 −45 92	148 −92 56	123 −71 52	125 −32 93	134 −52 82
9.	146 −53 93	116 −42 78	139 −81 58	148 −61 87	137 −96 41	155 −72 83

PINTS AND QUARTS

These problems show ways in which we use pints and quarts. Answer the questions.



1. Today the milkman left a quart and a pint of milk for Alan's mother. Find the quart bottle. Find the pint bottle.



2. Mother wanted a quart of peaches, but only pint jars of peaches were left. Jane took two pint jars, because she knew that two pints equal one quart. On which shelf are the pint jars? the quart jars?

3. James went to buy two quarts of paint for his father. The man did not have the paint in quart cans. How many pint cans should James buy to get two quarts of paint?

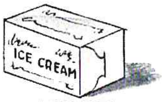
▶ Remember:

2 pints = 1 quart

HALF-PINTS, PINTS, AND QUARTS

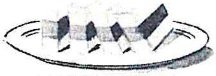
Mother sent Judy to buy two pint bricks of ice cream. Judy said, "Mr. Mason did not have two pint bricks of ice cream. He sent one quart. Will that be enough?"

Read to find the answer.



QUART

PINTS



HALF-PINTS

1. Judy's mother cut the quart brick of ice cream in half. She said, "Now we have 2 pints."

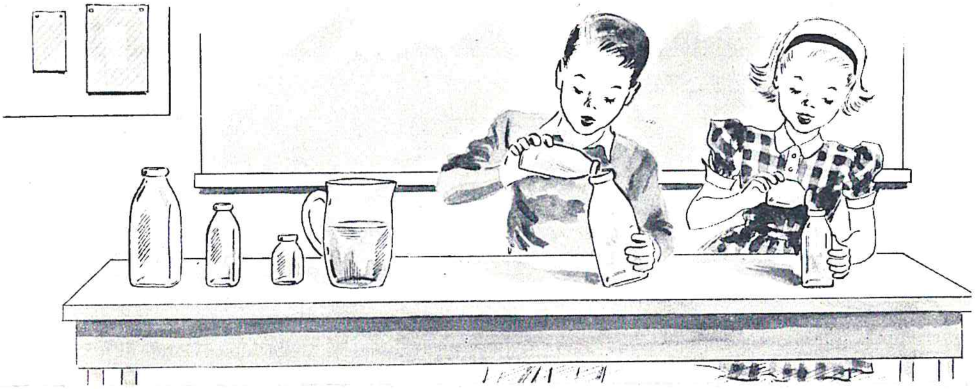
How many pints were there in the quart?

2. Then she cut each pint in half. How many half-pints did each pint make?

3. Use a pint bottle to fill a quart bottle with water. How many pints does the quart bottle hold? How many pints in a quart?

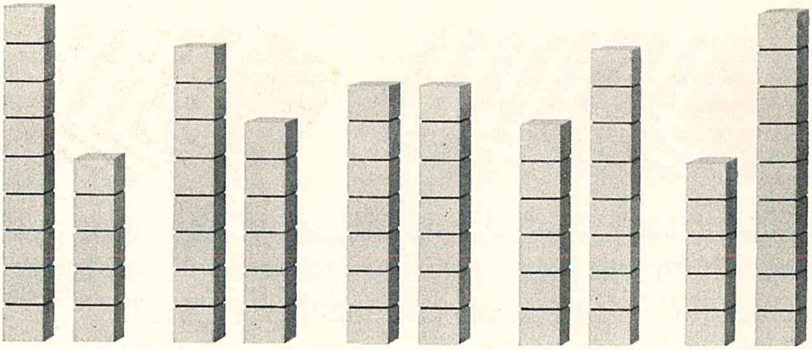
4. Use a half-pint bottle to fill a pint bottle with water. How many half-pints does the pint bottle hold? How many half-pints in 1 pint?

▶ Remember: **2 pints = 1 quart**
2 half-pints = 1 pint



ADDITION AND SUBTRACTION FACTS ABOUT FOURTEEN

Helen and Mary put some blocks in stacks to show these addition examples about fourteen. Read the examples and say the sums.



$$\begin{array}{r} 9 \\ +5 \\ \hline \end{array} \qquad \begin{array}{r} 8 \\ +6 \\ \hline \end{array} \qquad \begin{array}{r} 7 \\ +7 \\ \hline \end{array} \qquad \begin{array}{r} 6 \\ +8 \\ \hline \end{array} \qquad \begin{array}{r} 5 \\ +9 \\ \hline \end{array}$$

1. Write the addition facts with sums of 14.

2. Say the missing number in each example. Then write the subtraction facts about 14.

A. $14-9=?$ $14-8=?$ $14-7=?$
B. $14-6=?$ $14-5=?$

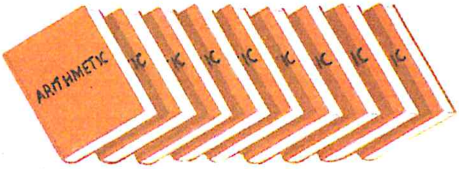
3. Say the missing number in each example.

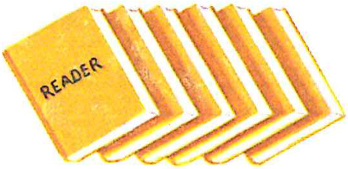
A. $6+?=14$ $9+?=14$ $7+?=14$
B. $5+?=14$ $8+?=14$
C. $14-?=9$ $14-?=7$ $14-?=6$
D. $14-?=8$ $14-?=5$
E. 14 means $\underline{\ ?\ }$ ten and $\underline{\ ?\ }$ ones.

GETTING READY FOR SCHOOL

Alan and Billy helped the teacher get ready for school. Find the answers to the questions.

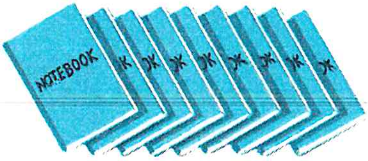
1. There were 9 arithmetic books and 6 readers on the teacher's desk. How many books were there in all?

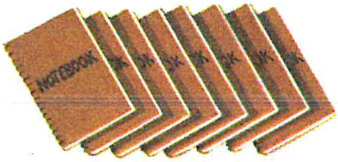




2. Billy took 6 of the 15 books off the desk and put them on the reading table. How many books did he leave on the teacher's desk?

3. There were 9 blue notebooks and 8 brown notebooks. How many notebooks were there in all?





4. Alan put the 17 notebooks in two stacks on the teacher's desk. He put 9 notebooks in one stack. How many did he put in the other stack?

Copy and learn the facts below.

$$\begin{array}{r} 9 \\ +6 \\ \hline 15 \end{array} \quad \begin{array}{r} 6 \\ +9 \\ \hline 15 \end{array} \quad \begin{array}{r} 15 \\ -9 \\ \hline 6 \end{array} \quad \begin{array}{r} 15 \\ -6 \\ \hline 9 \end{array} \qquad \begin{array}{r} 9 \\ +8 \\ \hline 17 \end{array} \quad \begin{array}{r} 8 \\ +9 \\ \hline 17 \end{array} \quad \begin{array}{r} 17 \\ -9 \\ \hline 8 \end{array} \quad \begin{array}{r} 17 \\ -8 \\ \hline 9 \end{array}$$

SUMS OF MORE THAN ONE HUNDRED

1. Mary has 42 books on her bookshelves at home. Susan has 44 books, and Jane has 51. How many books have the girls altogether?

Write the example. Begin at the top and add down. Add the ones first. Add 2 and 4. Think 6. Add 6 and 1. Think 7. Write the 7 under the 1.

Add the tens. Add 4 and 4. Think 8. Add 8 and 5. Think 13. Write the 3 in tens' place and the 1 in hundreds' place. Read the sum.

$$\begin{array}{r}42\\44\\51\\\hline 137\end{array}$$

2. James has 31 books, John has 62 books, and Tom has 55. How many books do they have?

Write the example. Add down. Add the ones. Then add the tens. Read the answer.

$$\begin{array}{r}31\\62\\55\\\hline\end{array}$$

3. Copy the examples below. Add down. Write the sums carefully.

A	B	C	D	E	F	G	H
33	22	34	14	22	26	31	43
14	63	41	82	73	31	66	11
91	71	82	51	43	81	92	93

KEEPING IN PRACTICE

Say the answers for the examples in Rows **1** and **2**.

	A	B	C	D	E	F	G	H
1.	8 +9	13 −5	5 +9	15 −6	7 +8	17 −8	6 +9	10 −5
2.	9 +6	14 −5	17 −9	8 +7	15 −9	10 −1	9 +8	13 −8

Fold a paper under the examples in Rows **3, 4,** and **5.** Watch the signs and write the answers.

	A	B	C	D	E	F	G
3.	128 −53	118 −76	53 +84	137 −45	136 −83	93 +96	119 −46
4.	87 +52	138 −95	129 −75	116 −32	96 +63	117 −84	129 −97
5.	158 −64	177 −93	92 +67	159 −84	177 −82	85 +92	159 −92

Copy the examples below and add. Be sure to write each figure in the sum where it belongs.

	A	B	C	D	E	F	G	H
6.	1 4 7	1 5 9	2 5 8	2 1 3	1 3 3	4 5 4	3 5 7	3 6 8
7.	15 23 81	24 61 93	43 33 41	22 52 55	33 43 83	17 41 81	13 64 42	31 54 62

FACTS ABOUT FIFTEEN AND SEVENTEEN

One day the girls made pictures of bells to show the addition facts about fifteen and seventeen.

Say the missing number in each example.

9 + 6 = ?

8 + 7 = ?

7 + 8 = ?

6 + 9 = ?

9 + 8 = ?

8 + 9 = ?

1. Write the addition facts with sums of 15; with sums of 17.

2. Say the missing number in each example.

A. 15 − 9 = ?   15 − 8 = ?   15 − 7 = ?   15 − 6 = ?

B. 17 − 9 = ?   17 − 8 = ?

3. Write the subtraction facts about 15; about 17.

4. Say the missing number in each example.

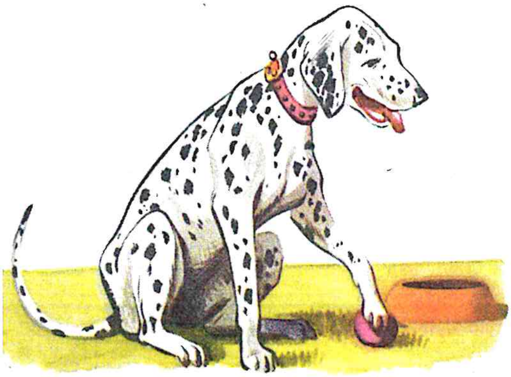
A. 9 + ? = 17   7 + ? = 15   9 + ? = 15   8 + ? = 17

B. 8 + ? = 15   6 + ? = 15   17 − ? = 9   15 − ? = 6

C. 15 − ? = 8   15 − ? = 9   15 − ? = 7   17 − ? = 8

5. 15 equals _?_ ten and _?_ ones.

6. 17 equals _?_ ten and _?_ ones.



ADDING ONES AND TENS

1. James bought a collar for Rags for 32¢, a ball for 5¢, and a feeding pan for 12¢. How much did he spend altogether?

Write the example this way: ⟶ When you write the 5, put it exactly under the 2. Write the 12 with the 2 exactly under the 5.

$$\begin{array}{r} 32\text{¢} \\ 5\text{¢} \\ \underline{12\text{¢}} \\ 49\text{¢} \end{array}$$

Add 2 and 5. Think 7. Add 7 and 2. Think 9. Write the 9 under the 2.

There are no dimes with the 5, so we add 3 and 1. Think 4. Write the 4 in the sum under the 1. Then write the cent sign. How much did James spend?

2. Copy this example and add: ⟶ Add the ones. Then add the tens. There are no tens with the 4 ones. Add 9 and 5. Where should you write the sum?

$$\begin{array}{r} 92 \\ 53 \\ \underline{4} \end{array}$$

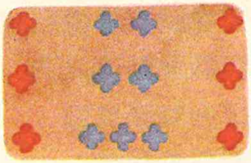
3. Copy the examples below. Add, and write the sums.

A	B	C	D	E	F	G	H	I	J
32	4	34	61	82	4	91	93	51	4
6	52	42	93	4	53	81	5	73	91
61	42	3	5	92	92	6	61	3	94

MAKING MATS

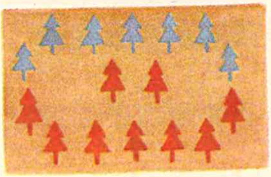
The girls made mats of colored felt to use under flower pots. Answer these questions about the mats.

1. Jane put 7 small blue flowers and 6 small red flowers on her mat. How many flowers did she put on her mat?

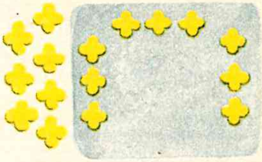


2. Helen cut out 13 stars to use on her mat. She has put 7 of them on. How many stars are left to put on?

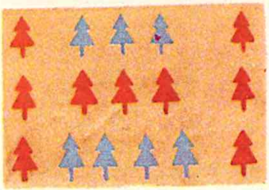
3. Mary put 9 red trees and 7 blue ones on her mat. How many trees are there on the mat?



4. Susan wants 16 flowers on her mat. She has put 9 of them on. How many does she have left to put on?



5. Judy cut 7 blue trees and 9 red trees for her mat. How many trees did she cut?



Copy and learn the facts below.

$$\begin{array}{r} 7\\ +6\\ \hline 13 \end{array}\quad \begin{array}{r} 6\\ +7\\ \hline 13 \end{array}\quad \begin{array}{r} 13\\ -7\\ \hline 6 \end{array}\quad \begin{array}{r} 13\\ -6\\ \hline 7 \end{array}\qquad\qquad \begin{array}{r} 9\\ +7\\ \hline 16 \end{array}\quad \begin{array}{r} 7\\ +9\\ \hline 16 \end{array}\quad \begin{array}{r} 16\\ -9\\ \hline 7 \end{array}\quad \begin{array}{r} 16\\ -7\\ \hline 9 \end{array}$$

FACTS ABOUT THIRTEEN, SIXTEEN, AND EIGHTEEN

Say the missing number in each example.

■■■■■■■■■ ■■■■ $9 + 4 = ?$
■■■■■■■■ ■■■■■ $8 + 5 = ?$
■■■■■■■ ■■■■■■ $7 + 6 = ?$
■■■■■■ ■■■■■■■ $6 + 7 = ?$
■■■■■ ■■■■■■■■ $5 + 8 = ?$
■■■■ ■■■■■■■■■ $4 + 9 = ?$

■■■■■■■■■ ■■■■■■■ $9 + 7 = ?$
■■■■■■■■ ■■■■■■■■ $8 + 8 = ?$
■■■■■■■ ■■■■■■■■■ $7 + 9 = ?$

■■■■■■■■■ ■■■■■■■■■ $9 + 9 = ?$

1. Write the addition facts with sums of 13; with sums of 16; with sums of 18.

2. Say the missing number in each example. Then write the subtraction facts.
A. $13 - 9 = ?$ $13 - 8 = ?$ $13 - 7 = ?$
B. $13 - 6 = ?$ $13 - 5 = ?$ $13 - 4 = ?$
C. $16 - 9 = ?$ $16 - 8 = ?$ $16 - 7 = ?$ $18 - 9 = ?$

3. Say the missing number for each example.
A. $9 + ? = 13$ $7 + ? = 13$ $5 + ? = 13$ $4 + ? = 13$
B. $6 + ? = 13$ $8 + ? = 13$ $9 + ? = 18$ $7 + ? = 16$
C. $9 + ? = 16$ $8 + ? = 16$ $13 - ? = 7$ $13 - ? = 4$
D. $13 - ? = 8$ $13 - ? = 6$ $13 - ? = 5$ $13 - ? = 9$
E. $16 - ? = 9$ $16 - ? = 7$ $18 - ? = 9$ $16 - ? = 8$

KEEPING IN PRACTICE

Say the answers for these examples:

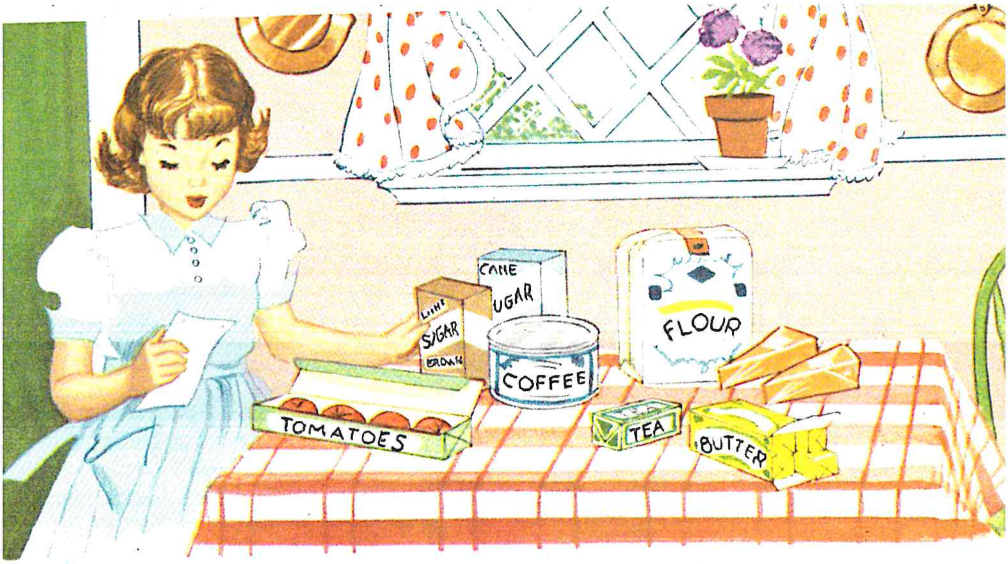
	A	B	C
1.	$3+3+7=?$	$10-2=?$	$10-3=?$
2.	$4+3+9=?$	$13-7=?$	$16-9=?$
3.	$5+2+6=?$	$10-5=?$	$14-5=?$
4.	$4+5+7=?$	$13-4=?$	$13-6=?$
5.	$1+3+7=?$	$16-7=?$	$10-1=?$

Copy the examples in Rows **6** through **11** and write the missing numbers.

6.	$9+?=16$	$13-?=8$	$1+?=10$
7.	$9+?=18$	$16-?=9$	$18-?=9$
8.	$16-?=7$	$6+?=13$	$9+?=10$
9.	$4+?=10$	$16-?=8$	$12-?=9$
10.	$13-?=7$	$2+?=10$	$13-?=5$
11.	$8+?=16$	$13-?=4$	$15-?=8$

Copy the examples below and write the answers.

	A	B	C	D	E	F	G
12.	129 -53	136 -64	74 $+94$	118 -74	74 $+63$	155 -63	138 -73
13.	177 -83	168 -92	94 $+35$	169 -72	65 $+73$	157 -92	157 -74
14.	71 6 91	22 74 83	91 51 7	5 82 51	61 35 72	61 5 83	72 61 6



BUYING BY THE POUND

Judy is helping Mother check to see if the grocer sent all of the groceries that she had ordered. Read the list and find the things in the picture. Answer the questions.

THE GROCERY LIST

1 pound of butter
1 pound of coffee
5 pounds of flour
1 pound of tomatoes
2 pounds of white sugar
1 pound of brown sugar
1 pound of cheese
one-fourth pound of tea

1. Judy said, "The cheese came in two packages. Each package is marked one-half pound."

Did the grocer send enough cheese?

2. Judy opened the box of butter. The butter was cut in quarter-pound pieces. How many pieces should there be in the box?

3. The box of tea weighed one-fourth pound. How many boxes would weigh one pound?

MAKING SURE OF ADDITION

Fold a paper under the examples in Rows **1** through **4.** Write the sums. If you miss any, turn to the addition facts in the back of your book. Copy and learn the facts you miss.

	A	B	C	D	E	F	G	H	I
1.	3 9	5 8	7 7	9 6	8 5	9 2	7 4	9 8	6 6
2.	4 7	6 9	7 5	9 4	8 7	9 9	3 8	5 9	8 8
3.	2 9	8 3	6 7	9 3	6 8	7 9	5 7	8 6	4 9
4.	7 8	6 5	9 7	4 8	9 5	5 6	8 4	7 6	8 9

Copy the examples below and add. Check your work. If you miss any of the examples, turn to the pages given at the ends of the rows. Learn how to do the examples you miss.

	A	B	C	D	E	F	G	
5.	45 32	23 63	92 75	46 73	74 85	67 92	83 96	**79** **104**
6.	23 13 52	33 21 24	12 63 92	32 42 54	92 5 81	32 62 63	7 71 61	**95** **117** **120**

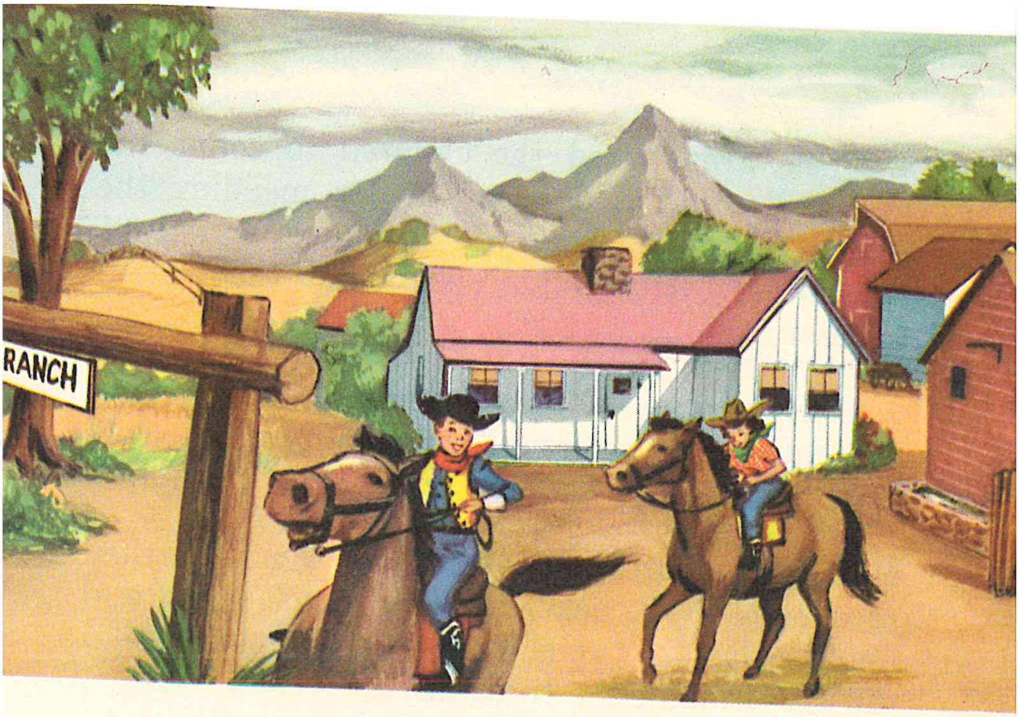
MAKING SURE OF SUBTRACTION

Fold a paper under the examples in Rows **1** through **4.** Write the remainders. If you miss any, turn to the subtraction facts in the back of your book. Copy and learn the facts you miss.

	A	B	C	D	E	F	G	H	I
1.	11 2	18 9	12 3	15 8	13 6	14 8	16 7	13 4	11 7
2.	14 6	12 9	13 5	14 9	15 7	16 8	11 9	12 5	13 8
3.	12 7	11 4	15 9	11 8	12 6	13 9	15 6	12 4	11 5
4.	16 9	12 8	17 8	13 7	11 3	14 7	17 9	11 6	14 5

Copy the examples below and subtract. If you miss any, turn to the pages listed at the ends of the rows and learn to do them.

	A	B	C	D	E	F	G	
5.	76 63	97 43	87 64	128 55	135 73	157 92	169 72	**89** **111**
6.	166 95	149 87	158 84	129 76	177 95	146 92	179 85	**111**



A VISIT TO THE RANCH

Billy and Judy visited their uncle's ranch. Read each problem and write the answer to the question that is asked.

1. To get to the ranch the children traveled 4 hours in an airplane, 3 hours on a bus, and 1 hour in their uncle's automobile. How many hours did it take them to get to the ranch?

2. On the ranch there were 3 barns, 2 houses for the cowboys, and 1 big ranch house. How many buildings were there altogether on the ranch?

3. Uncle Fred had many horses on the ranch. There were 3 white ones, 6 black ones, and 8 brown ones. How many horses were there in all?

4. Uncle Fred asked the children to count the new posts that had been cut for mending the fences. They counted 72 in one pile and 65 in another. How many posts did they count altogether?

5. One day the 17 horses were in the pasture. The gate came open and 8 horses ran away. How many were left in the pasture?

6. Billy and Judy rode every day. One day they rode 2 miles, the next day they rode 3 miles, and another day they rode 5 miles. How many miles did they ride in the three days?

7. Uncle Fred took the children to see the calves. There were 157 of them. Last year there were only 94. How many more calves are there this year than last year?

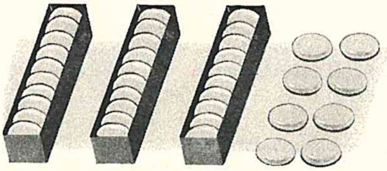
8. Uncle Fred had 169 head of cattle ready for sale. He decided to sell only 95 of them at that time. How many did he keep?

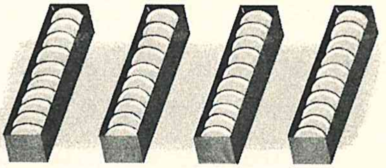
9. Billy and Judy went to town with Aunt May to buy things for the ranch. Billy wanted to buy a knife that cost 98¢. He had only 85¢. How much more money did he need?

10. Judy wanted to buy a dish for Aunt May. A large dish cost 87¢ and a small one 65¢. How much less did the small dish cost?

ZERO IN TWO-PLACE NUMBERS

The girls made cookies for the school food sale. They put them in boxes that held 10 cookies each.


JUDY'S COOKIES


JANE'S COOKIES

1. How many cookies are there in each of Judy's boxes? Count each box of cookies as 1 ten. How many tens are there? Count the cookies that are out of the boxes as ones. How many ones are there?

The picture at the left shows 3 boxes of ten cookies each and 8 extra cookies. The number 38 means 3 tens and 8 ones.

2. Look at the picture of Jane's cookies. Count each box of cookies as 1 ten. How many tens are there? Are there any cookies to count as ones?

The picture at the right shows 4 boxes of ten cookies each and no extra cookies. The number 40 means 4 tens and 0 ones.

3. When we write a two-place number, such as 38 or 40, we use two figures. The figure on the right shows how many ones there are. The figure on the left shows how many tens there are.

Read these numbers and tell how many tens and ones there are in each: 40, 67, 90, 60, 82, 30, 79, 50, 70, 20, 80.

ADDING NUMBERS WITH ZEROS

1. Jane has 32 stamps. John has 40. How many do they have altogether?

Write the example and add. The zero in 40 shows that there are no ones in ones' place. There is nothing to add to the 2. Write the 2 in ones' place in the sum. Add the tens: 3 and 4 are 7. Write the 7 in tens' place.

$$\begin{array}{r}32\\ \underline{40}\\ 72\end{array}$$

How many stamps do they have altogether?

2. Susan has 60 stamps and Tom has 23. How many stamps do they have altogether?

Write the example and add. The zero in 60 shows that there are no ones in ones' place. Write 3 in ones' place in the sum. Then add the tens.

$$\begin{array}{r}60\\ \underline{23}\\ 3\end{array}$$

How many stamps do they have altogether?

3. Mary has 40 stamps and Alan has 50. How many stamps do they have altogether?

Write the example and look at ones' column. The zeros show that there are no ones to add. Write 0 in ones' place in the sum. Add the tens.

$$\begin{array}{r}40\\ \underline{50}\\ 0\end{array}$$

How many stamps do they have altogether?

PRACTICING ADDITION WITH ZEROS

Add, and write the sums for the examples below on folded paper. Look at the first example in Row **1**. In the 40 are there any ones in ones' place? Is there anything to add to the 5? What will you write in ones' place in the sum?

	A	B	C	D	E	F	G	H
1.	35	71	29	48	74	66	83	77
	40	20	30	80	80	70	50	90

Look at the first example in Row **2**. In the 30, are there any ones in ones' place? What will you write in ones' place in the sum?

2.	30	40	50	90	50	30	90	50
	64	26	48	95	92	89	87	61

Look at the first example in Row **3**. In the 30 and the 50 are there any ones in ones' place to add? What will you write in the sum?

3.	30	60	50	60	80	70	90	80
	50	30	20	90	70	50	40	90

Copy the examples in Row **4**. Add, and write the sums. In addition examples, zero in a number shows that there is nothing in that place to add.

4.	20	90	47	60	88	60	70	99
	91	70	70	83	40	58	40	60

EARNING MONEY TO PUT IN THE BANK

The boys and girls earned money to put in the bank on School Bank Day. Find what they did to make money, and how much each one made.

1. Jane got 30¢ for taking care of a neighbor's puppy, 15¢ for doing the shopping, and 23¢ for helping her mother. How much did she make?

Write the example. Begin at the right to add. The zero shows that there is nothing in that place to add. Add 5 and 3. Think 8. Write the 8 in the sum under the 3. Add 3 and 1. Think 4, and add 2. How much money did Jane make altogether?

$$\begin{array}{r} 30\text{¢} \\ 15\text{¢} \\ \underline{23\text{¢}} \\ 8\phantom{\text{¢}} \end{array}$$

2. Susan sold things to a junk man. She got 21¢ for bottles, 20¢ for a box of old toys, and 22¢ for an old coat. How much did she get in all?

Write the example and add. What does the zero show? How much did Susan get to put in the bank?

$$\begin{array}{r} 21\text{¢} \\ 20\text{¢} \\ \underline{22\text{¢}} \end{array}$$

3. Alan sold an old tire for 16¢. He earned 10¢ sweeping the walk, and 30¢ dusting the car. How much did he make in all?

Write the example and add. What will you write in the sum under the zero? Add the figures in the next column. How much money did Alan make altogether?

$$\begin{array}{r} 16\text{¢} \\ 10\text{¢} \\ \underline{30\text{¢}} \\ 6 \end{array}$$

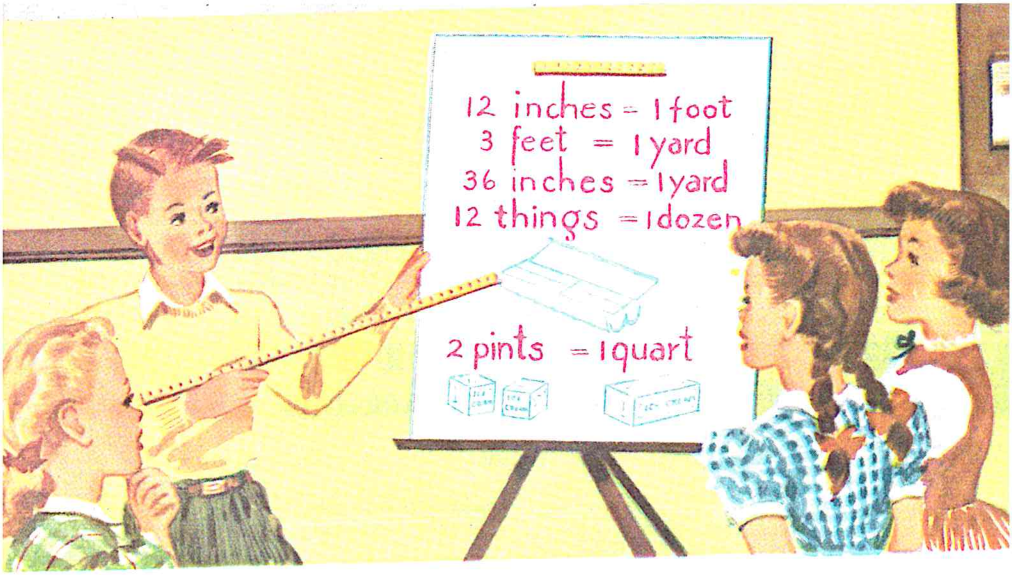
4. Helen earned 30¢ weeding the garden, 20¢ watering the grass, and 40¢ painting the garden gate. How much did she earn altogether?

Write the example and add. What do the three zeros show? Write 0 in the sum to show that there is nothing in that column to add. Then add the figures in the next column. How much did Helen earn to put in the bank?

$$\begin{array}{r} 30\text{¢} \\ 20\text{¢} \\ \underline{40\text{¢}} \\ 0 \end{array}$$

Copy the examples below. When you add, remember what the zeros show. Write the sums.

	A	B	C	D	E	F	G	H
5.	34	10	51	10	51	36	20	60
	40	23	16	37	20	10	32	10
	12	64	30	42	28	50	30	20
6.	20	23	10	30	20	80	63	5
	50	40	40	64	5	91	5	60
	90	83	99	30	91	7	90	74



A QUESTION AND ANSWER GAME

The third grade made a chart to show some things they had learned. Then they played a question and answer game. Read the questions and write the answers.

1. Mary said, "I have a ribbon that is 1 foot and 6 inches long. How many inches long is it?"

2. John said, "I bought a dozen marbles. I already had 7. How many do I have now?"

3. Susan said, "I bought a quart and a pint of ice cream for my party. How many pints did I have?"

4. Helen said, "I had 1 yard of cloth. I used 21 inches of it to make a doll dress. How many inches did I have left?"

5. John said, "I had a board 1 yard long. I used 2 feet of it. How many feet were left?"

SUBTRACTING WITH ZEROS

1. Susan had 45 cents. She paid 30 cents for a doll. How many cents did Susan have left?

Write the example and subtract. The zero shows that there is nothing to subtract from the 5. Write 5 in the remainder under the zero. Subtract 3 from 4. How many cents did Susan have left?

$$\begin{array}{r} 45\text{¢} \\ \underline{30\text{¢}} \\ 5 \end{array}$$

2. Alan had 83 stamps. He sold 40 stamps to a friend. How many stamps did he have left?

Write the example and subtract the ones. The zero shows that there are no ones to subtract from the 3. Subtract the tens. Then read the remainder.

$$\begin{array}{r} 83 \\ \underline{40} \end{array}$$

Copy the examples below and subtract. Remember that the zeros show that we have nothing in ones' place to subtract.

	A	B	C	D	E	F	G
3.	67 40	82 20	46 20	69 50	98 30	54 30	91 20
4.	115 70	169 80	152 70	146 60	123 50	147 90	158 60

MORE SUBTRACTING WITH ZEROS

1. Tom had 90 cents. He spent 50 cents for a ball. How many cents did Tom have left?

Write the example and subtract. The zeros show that there is nothing in that place to subtract. Write zero in the remainder. Subtract 5 from 9. Write 4 in the remainder.

$$\begin{array}{r} 90\text{¢} \\ \underline{50\text{¢}} \\ 40\text{¢} \end{array}$$

How many cents did Tom have left?

2. John had 80 marbles. He gave 50 marbles to James. How many marbles did John have left?

Write the example and subtract. What do the zeros in ones' place show? What do we write in ones' place in the remainder? Subtract the tens.

$$\begin{array}{r} 80 \\ \underline{50} \\ 0 \end{array}$$

How many marbles did John have left?

Copy the examples below. Write the remainders. Remember that zero in ones' place shows that there are no ones in that place to subtract. What should you write in ones' place in the remainder?

	A	B	C	D	E	F	G
3.	90 40	70 30	60 20	80 30	90 60	70 40	90 70
4.	130 60	150 80	180 90	160 70	140 50	170 90	140 80

ZERO IN THE REMAINDER

1. John had 43 goldfish. He sold 23 of them. How many goldfish did he have left?

Write the example and subtract the ones. Subtract 3 from 3. Write 0 in ones' place in the remainder to show that no ones are left. Subtract the tens. How many fish did John have left?

$$\begin{array}{r}43\\ \underline{23}\\ 0\end{array}$$

2. A box had 36 tops in it. The man in the toy store sold 16 of them. How many tops were left?

Write the example. Subtract the ones. What should you write in ones' place in the remainder to show that no ones are left? Now subtract the tens. How many tops were left?

$$\begin{array}{r}36\\ \underline{16}\end{array}$$

▶ When we subtract a number from another number just like it, the remainder is always zero.

Copy the examples below. Write the remainders.

	A	B	C	D	E	F	G
3.	94 64	57 47	72 22	95 55	58 28	81 51	69 39
4.	156 96	113 63	138 58	124 94	129 79	132 72	137 97

MAKING SURE OF ZEROS

Fold a paper under the examples in Rows **1**, **2**, and **3**. Write the sums. If you miss any of them, turn to the pages listed at the ends of the rows. Learn to add numbers with zeros.

	A	B	C	D	E	F	G	
1.	40 85	60 90	76 70	20 99	78 40	40 90	80 31	**130** **131**
2.	60 20 16	20 76 83	30 34 75	40 38 91	14 70 63	10 81 55	40 22 53	**132** **133**
3.	90 7 30	30 13 84	6 80 32	90 40 9	13 60 6	60 60 9	70 81 8	**132** **133**

Copy the examples below. Write the remainders. If you miss any of them, turn to pages 135, 136, and 137. Learn to do the examples you miss.

	A	B	C	D	E	F	G
4.	87 67	84 50	78 50	99 59	84 44	95 35	90 40
5.	146 70	132 42	153 70	171 81	110 90	119 80	167 90

READING IN THE LIBRARY

Each day the children tell Miss Martin how much reading they have done in the library. Answer these questions about their reading.

1. The story James is reading is 52 pages long. He has read 20 pages. How many more pages does he have to read?

2. John read a book in two days. He read 90 pages on Monday and 62 pages on Tuesday. How many pages did he read in the two days?

3. Helen's book has 148 pages of stories. She has read 78 pages. How many more pages are there to read?

4. Susan read a book in three days. She read 51 pages on Wednesday, 30 pages on Thursday, and 71 pages on Friday. How many pages did she read altogether?

5. Alan's book has three stories in it. One story is 34 pages long, one is 45 pages long, and another is 50 pages long. How many pages are there for Alan to read?

6. Helen read 96 pages and Alan read 76 pages. How many more pages did Helen read than Alan?

7. Billy's story is 130 pages long. He has read 60 pages. How many more pages must he read?

8. Judy read one story that was 7 pages long, another that was 20 pages long, and another that was 30 pages long. How many pages did she read altogether?

9. Some of the children read in the library from fifteen minutes past two until three o'clock. How long did they read?

Make a picture of a clock to show 15 minutes past 2. Count by 5's to find the number of minutes until 3 o'clock.

Copy the examples below. Watch the signs and the zeros. Write the answers. Check your work.

	A	B	C	D	E	F	G
10.	111 −41	122 −80	39 +80	129 −50	60 +53	134 −40	133 −63
11.	73 40 6	50 36 32	40 8 70	9 80 40	70 22 60	15 80 94	50 37 91

KEEPING IN PRACTICE

Say the missing remainders or sums:

	A	B	C
1.	10 − 1 = ?	12 − 7 = ?	1 + 2 + 7 = ?
2.	15 − 6 = ?	10 − 6 = ?	1 + 1 + 8 = ?
3.	10 − 3 = ?	14 − 8 = ?	4 + 2 + 4 = ?
4.	17 − 9 = ?	10 − 8 = ?	2 + 3 + 5 = ?

Write the sums on folded paper:

	A	B	C	D	E	F	G	H
5.	1 8 7	2 3 7	2 5 3	2 3 9	6 2 2	4 4 4	1 6 9	2 5 6
6.	4 5 5	3 1 6	3 2 8	1 7 7	1 4 5	2 7 9	1 8 8	3 3 9
7.	24 72 80	45 11 61	24 42 92	14 61 53	43 50 34	42 14 71	63 35 11	11 41 94

Copy the examples below. Subtract, and write the remainders. Then check your work.

	A	B	C	D	E	F
8.	138 96	159 83	149 64	161 90	139 65	177 82
9.	146 53	167 84	185 95	146 92	110 70	158 93

HELPING AT SCHOOL

In Washington School, the children help sell things for school. It is Tom's and Billy's turn to help. Find what they sold.

1. Tom said, "Last week we sold 78 notebooks. This week we sold 31. How many did we sell in the two weeks together?"

Write the example this way: ——————→
First add 8 and 1. Write 9 in ones' place in the sum.

$$\begin{array}{r} 78 \\ 31 \\ \hline 109 \end{array}$$

Now add the tens: 7 and 3 are 10. There are 10 tens. Ten tens equal 1 hundred and no tens. Write 0 in tens' place in the sum to show that there are no tens. Write 1 in hundreds' place in the sum. We read the answer, "One hundred nine."

2. Billy sold 51 boxes of crayons last week. This week he sold 57 boxes. How many boxes of crayons did he sell in the two weeks?

3. The boys sold 13 pencils on Wednesday, 31 on Thursday, and 61 on Friday. How many pencils did they sell in the three days?

$$\begin{array}{r} 13 \\ 31 \\ \underline{61} \\ 105 \end{array}$$

Write the example. Add 3 and 1. Think 4. Add 4 and 1. Think 5. Write the 5 in ones' place in the sum.

Add the tens. Add 1 and 3. Think 4. Add 4 and 6. Think 10. There are 10 tens, or 1 hundred and no tens. Write 0 in tens' place in the sum to show that there are no tens. Write 1 in hundreds' place, to the left of the zero. How many pencils did they sell?

4. The boys sold 31 sheets of green paper, 4 of blue paper, and 71 of red paper. How many sheets of colored paper did they sell?

5. Tom sold 60 writing pads last week and 40 this week. How many did he sell in two weeks?

$$\begin{array}{r} 60 \\ \underline{40} \\ 100 \end{array}$$

Write the example. The zeros in ones' place show that there are no ones to add. Write 0 in ones' place in the sum.

Add the tens: 6 and 4 are 10. There are 10 tens, or 1 hundred and no tens. Write 0 in tens' place and 1 in hundreds' place in the sum. How many writing pads did Tom sell?

ZERO IN TENS' PLACE IN THE SUM

1. Write the example. There are no ones to add, so we write 0 in ones' place in the sum.

$$\begin{array}{r} 30 \\ 60 \\ 10 \\ \hline 100 \end{array}$$

Add the tens. Think, 3 and 6 are 9. Add 9 and 1. Think 10. There are 10 tens, or 1 hundred and no tens. Write 0 in tens' place and 1 in hundreds' place in the sum. Read the sum.

Copy the examples below and write the sums.

	A	B	C	D	E	F	G	H
2.	12	47	83	70	30	60	23	71
	95	62	23	70	70	40	82	38
3.	65	70	70	32	10	80	54	91
	42	30	60	74	90	20	54	14
4.	71	4	60	32	50	41	60	61
	13	74	30	22	40	32	20	41
	22	31	10	71	10	32	20	5
5.	40	12	54	50	60	23	30	22
	40	6	21	10	9	12	30	21
	20	91	34	80	40	72	40	63

THINK AND ANSWER

Before you can answer the question in each of these problems, you must know something that is not told in the problem. Think what it is. Then write the answer to the question. If you need help, turn to the page given after the problem.

1. Mary cut a candy bar into four equal pieces. What part of the candy bar was each piece? **(69)**

2. Judy's mother had a dozen eggs. She used 4 of them. How many eggs were left? **(93)**

3. John bought 1 pound of candy. He had it put in boxes that held one-half pound each. How many boxes did he need? **(124)**

4. Helen bought 2 quarts of ice cream. This was the same as how many pints? **(114)**

5. Billy bought a top for 10¢. He gave the storekeeper a quarter. How much change did he get? **(84)**

6. Jane cut two sandwiches into halves. How many pieces did she have in all? **(69)**

7. A pound of butter is cut into quarter-pound pieces. How many pieces are there? **(124)**

8. Susan has a half-dollar and a quarter. This is the same as how many quarters? **(84)**

SUBTRACTING WITH ZERO IN TENS' PLACE

1. A storekeeper had 108 pencils. He sold 41 of them. How many pencils were left?

Write the example. Be careful to place the 4 in tens' place exactly under the 0. Subtract the ones: 1 from 8 is 7. Write 7 in ones' place in the remainder.

$$\begin{array}{r}108\\41\\\hline 67\end{array}$$

Next subtract 4 from 10. Four from 10 is 6. Write 6 in tens' place in the remainder. How many pencils were left?

2. The storekeeper had 100 writing pads. He sold 70 of them. How many were left?

Write the example. The zeros in ones' place show that there are no ones in ones' place to subtract. Why do we write 0 in ones' place in the remainder?

$$\begin{array}{r}100\\70\\\hline 30\end{array}$$

Now subtract 7 from 10: 7 from 10 is 3. Write 3 in tens' place in the remainder. How many writing pads were left?

Copy the examples below and subtract.

	A	B	C	D	E	F
3.	108 92	100 20	105 61	106 13	100 30	107 55
4.	100 40	101 80	106 26	107 90	105 62	107 15

PRACTICING WHAT YOU HAVE LEARNED

Copy the examples in Rows **1**, **2**, and **3** in columns. Be very careful to keep the columns straight, with the ones in ones' place and the tens in tens' place. Add, and write the sums.

	A	B	C
1.	6 + 1 + 3	2 + 7 + 1	53 + 11 + 72
2.	7 + 2 + 8	5 + 1 + 4	11 + 4 + 93
3.	5 + 3 + 2	7 + 2 + 5	80 + 72 + 6

Copy the numbers below, putting one under the other. Add or subtract, and write the answers.

	A	B	C
4.	128 − 96	70 + 30	100 − 80
5.	107 − 65	86 + 33	138 − 74
6.	128 − 71	60 + 40	109 − 51

Copy the examples below, and add or subtract.

	A	B	C	D	E	F
7.	105 −35	20 +80	114 −80	148 −60	30 +70	100 −60
8.	94 −74	51 +80	129 −39	135 −90	19 +90	107 −83
9.	107 −47	60 +44	118 −48	109 −25	70 +86	140 −50

LEARNING TO SOLVE PROBLEMS

In each problem below, two things happen and two questions are asked. Before you can find the answer to the second question, you must find the answer to the first. Think what happens and what each question asks. Decide what to do to find the answer. Then answer each question.

1. Tom earned 8¢ on Monday and 4¢ on Tuesday. How much did he earn altogether? Tom spent 5¢ for candy. How much money did he have left?

Tom earned some money. Add 8¢ and 4¢ to find how much he earned. Write the answer to the first question.

Tom spent some money. Subtract 5¢ from the money he earned to find how much he had left. Write the answer to the second question.

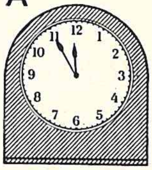
2. Jane had 9 cookies. She ate 3 cookies. How many did she have left? Mother gave Jane 4 more cookies. Then how many did she have?

3. John had 8 marbles. He lost 5 of them. How many did he have then? John bought 9 more marbles. Then how many did he have?

4. Five boys were playing ball and 9 more came to play. Then how many boys were playing? Six boys went home. Then how many were playing?

5. Susan had 14 baby ducks. She sold 5 of them. How many ducks did she have left? Susan sold 4 more ducks. Then how many were left?

A



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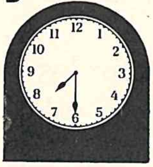

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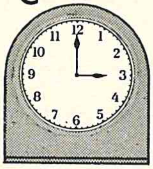

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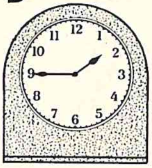

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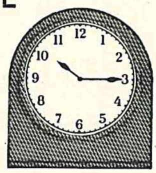


MAKING SURE YOU CAN TELL TIME

1. Which hand of the clock tells the hour?

2. Which hand tells the minutes?

3. How long does it take the hour hand to go from one number to the next on the clock?

4. How long does it take the minute hand to go from one number to the next on the clock?

5. How long does it take the minute hand to go all around the clockface?

6. How many minutes are there in an hour?

7. Look at the clock pictures above, and answer these questions:

- **A.** Which clock shows 3 o'clock?
- **B.** Which clock shows half past 7?
- **C.** Which clock shows 15 minutes past 10?
- **D.** Which clock shows 15 minutes to 2?
- **E.** Which clock shows 5 minutes to 12?

8. Read the time on Clock **B**; Clock **E**; Clock **C**; Clock **A**; Clock **D**.

9. Make a clock that shows 15 minutes to 4.

If you cannot answer the questions, find help on pages 97, 98, and 99.

MAKING SURE OF ADDITION

Fold a paper under the examples in Rows **1** through **4.** Write the sums. If you miss any, turn to the addition facts in the back of your book. Copy and learn the facts you miss.

	A	B	C	D	E	F	G	H	I
1.	9	6	8	7	6	9	4	8	6
	2	5	9	4	6	7	7	5	9
2.	8	4	9	5	7	8	3	7	9
	6	9	9	6	8	4	9	6	5
3.	9	4	8	5	9	6	8	2	7
	6	8	7	9	3	7	8	9	5
4.	5	9	7	8	7	5	9	3	6
	7	8	7	3	9	8	4	8	8

Copy the examples below and write the sums. Check your work. If you miss any examples, turn to the pages listed at the ends of the rows. Learn to do those you miss.

	A	B	C	D	E	F	G	
5.	84	95	93	23	75	54	76	**104**
	94	32	76	94	84	95	62	
6.	62	32	23	11	31	5	31	**117** **120**
	31	52	64	72	5	73	81	
	22	65	42	83	91	71	7	

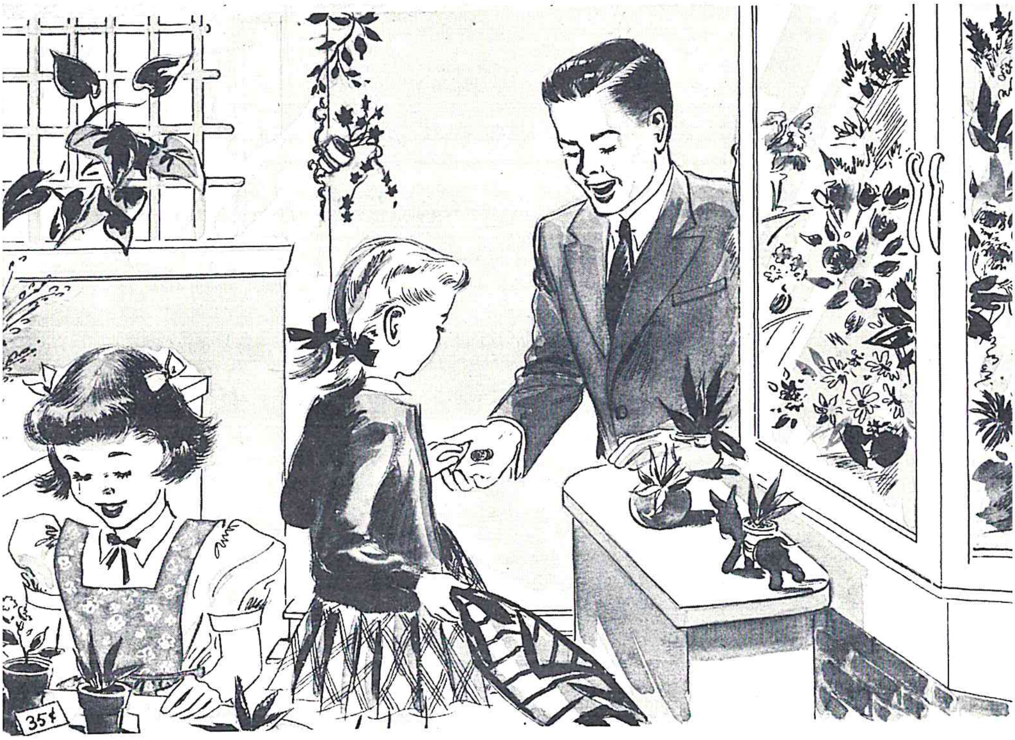
MAKING SURE OF SUBTRACTION

Fold a paper under the examples in Rows **1** through **4.** Write the remainders. If you miss any, turn to the subtraction facts in the back of your book. Copy and learn the facts you miss.

	A	B	C	D	E	F	G	H	I
1.	11 2	12 6	15 7	13 8	16 9	13 7	11 3	14 9	15 6
2.	17 9	14 8	12 3	11 6	15 8	11 4	16 7	11 7	12 4
3.	11 8	13 5	14 7	12 9	13 4	17 8	11 5	12 8	16 8
4.	14 6	13 9	12 5	18 9	13 6	11 9	14 5	12 7	15 9

Copy the examples below and subtract. Check your work. If you miss any examples, turn to the pages listed at the ends of the rows. Learn to do the examples you miss.

	A	B	C	D	E	F	
5.	86 54	93 42	66 31	189 96	158 62	176 85	**89** **111**
6.	127 62	168 93	167 73	146 72	147 84	176 95	**111**



PRACTICE IN PROBLEM SOLVING

When you solve a problem, make sure that your answer is correct. You may have made a mistake because you have not read the problem carefully. You may have added when you should have subtracted.

When you have found the answer, check to be sure your answer is correct.

1. Mary paid 62¢ for some flowers. She gave the salesman 75¢. How much change should she get?

2. Judy saw two plants that she wanted to buy. One cost 35¢ and the other cost 50¢. How much would both plants cost? Judy had 75¢. How much more money did she need to buy both plants?

3. Helen paid 98¢ for her book. Jane paid 45¢ for hers. How much less did Jane pay than Helen?

4. There are 186 marbles in a blue box and 90 marbles in a red box. How many fewer marbles are there in the red box?

5. Mrs. Owen worked 34 hours for the Red Cross in one month, 63 hours in another, and 40 hours in another month. How many hours did she work altogether?

6. It is 169 miles to Tom's grandfather's house and 89 miles to his uncle's house. How much farther is it to Tom's grandfather's house than it is to his uncle's house?

7. There were 87 boys and 92 girls at the show. How many children in all went to the show?

8. Billy's grandmother is 67 years old. His mother is 30 years old. How much older is his grandmother than his mother?

9. Susan's father weighs 173 pounds. Her brother weighs 93 pounds. How much more does her father weigh than her brother?

10. The third grade is making 100 bookmarks for the Junior Red Cross. They have made 80. How many more bookmarks must they make?

MAKING SURE OF ZEROS

Many of the examples on this page have zeros in them. Some will have zeros in the answers.

Watch the signs, and write the answers to the examples in Rows **1, 2,** and **3** on folded paper.

	A	B	C	D	E	F	
1.	30 +35	30 +90	97 +90	53 +75	40 +28	74 +90	**130** **131**
2.	53 −23	110 −50	166 −70	69 −32	128 −70	138 −68	**135** **136** **137**
3.	75 +30	102 −50	100 −70	40 +69	101 −90	105 −23	**142** **146**

Copy the examples in Rows **4** and **5** and add.

4.	20 71 25	56 31 41	57 10 60	62 7 70	90 62 5	10 60 70	**132** **133**
5.	11 60 38	10 80 10	32 6 70	41 92 5	83 10 14	5 21 80	**143** **144**

Check your work. If you missed any examples, turn to the pages given at the ends of the rows. Learn to do the examples that you missed.

MAKING SURE OF NUMBERS

This page will help you know how well you can read and write numbers and tell what they mean. If you need more help, study pages 66, 67, and 68 again.

Read the numbers in Rows **1, 2, 3,** and **4.**

	A	B	C	D	E
1.	72	341	105	450	237
2.	163	207	340	96	172
3.	500	80	428	304	219
4.	408	291	56	64	489

5. Tell which is the largest and which is the smallest number in Row **1,** in Row **2,** in Row **3,** and in Row **4** above.

6. Tell how many hundreds, tens, and ones there are in each number above.

7. Write the above numbers on your paper as your teacher reads them to you.

Read the numbers below. Write them on your paper, using figures instead of words.

	A	B
8.	three hundred twenty-five	fifteen
9.	four hundred seven	forty-six
10.	one hundred sixteen	thirty-nine
11.	three hundred	seventy-eight
12.	two hundred ten	twelve

THINK AND ANSWER

Write the answers to the questions below. If you need help, turn to the pages given after the questions.

1. What figures do we use to write the numbers from one to one hundred? **(63)**

2. How are numbers placed when they are in a column? **(56)**

3. Write the numbers from 101 to 150. Put them in columns. Put the numbers from 101 to 110 in the first column. Then put the numbers from 111 to 120 in the next column, and so on. Make the columns straight. **(67, 68)**

4. What does the plus sign tell you to do? the minus sign? **(19, 26)**

5. What do we call the answer when we add? when we subtract? **(12, 24)**

6. How many nickels equal a quarter? **(84)**

7. How many dimes equal a half-dollar? **(84)**

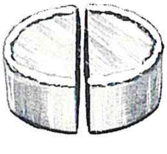
8. How many pennies equal a quarter? **(84)**

9. How many pennies equal a half-dollar? **(84)**

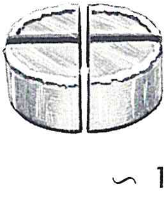
10. When we write the answer to a problem, what must the answer do? **(11)**

11. Which cakes below are cut into halves? into quarters? **(69)**

A



B



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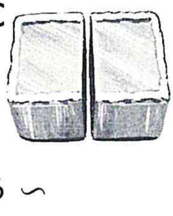

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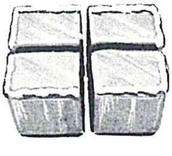

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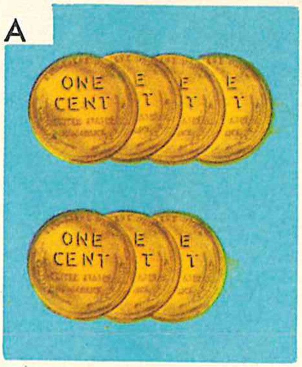

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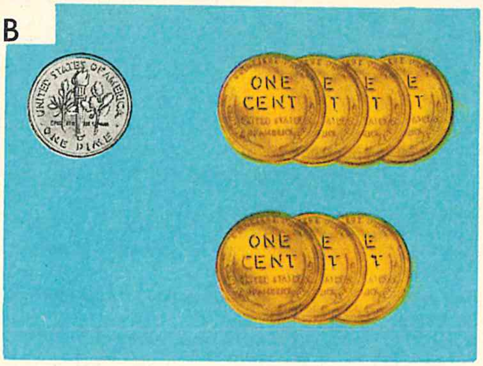


ADDING DIMES AND PENNIES

1. Look at Picture **A.** How many cents are 4¢ and 3¢? Look at Picture **B.** You can find how many 14¢ and 3¢ are, because you know that 4¢ and 3¢ are 7¢. Adding 14¢ and 3¢ is like adding 4¢ and 3¢, but the sum is ten cents more. So 14¢ and 3¢ are 17¢.

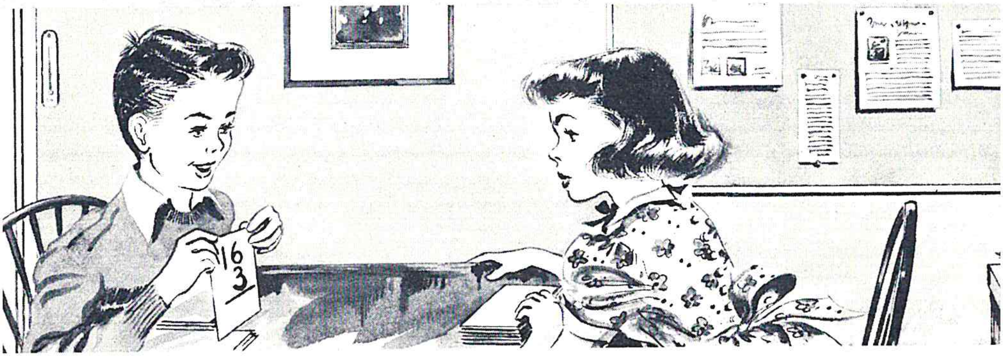
$$\begin{array}{r} 4¢ \\ \underline{3¢} \\ 7¢ \end{array} \qquad \begin{array}{r} 14¢ \\ \underline{3¢} \\ 17¢ \end{array}$$

2. You know that 3 and 2 are 5. You see that adding 13 and 2 is like adding 3 and 2, but the sum is ten more. So 13 and 2 are 15.

$$\begin{array}{r} 3 \\ \underline{2} \end{array} \qquad \begin{array}{r} 13 \\ \underline{\ \ 2} \end{array}$$

3. In each group of examples below, the first example is one which you already know. The second example in each group is like the first, but the sum is ten more. Think and say the sums. Think, 2 and 1 are 3; 12 and 1 are 13.

A		B		C		D	
2	12	2	12	3	13	5	15
1	1	4	4	3	3	3	3



PLAYING AN ARITHMETIC GAME

Judy and John are playing a thinking game. John shows a card to Judy. She thinks and says the sum for the example on the card. You can play the game this way:

Each of the examples below is like an addition example you know, but the sum is ten more. In Example 1 C you see 11 and 3; you know that it is like 1 and 3 but is ten more. You know that 1 and 3 are 4. So 11 and 3 are 14. Look at 15 and 3. You know that 5 and 3 are 8. So 15 and 3 are 18.

Say the sum for each example below.

	A	B	C	D	E	F	G	H
1.	11 1	11 2	11 3	11 4	11 5	11 6	11 7	11 8
2.	15 1	15 2	15 3	15 4	16 1	16 2	16 3	17 1
3.	17 2	12 1	12 2	12 3	12 4	12 5	12 6	12 7

ADDING ONES TO TENS AND ONES

Each example on this page is like an addition example that you already know. You can see that 12 and 6 is like 2 and 6. You know that 2 and 6 are 8. So 12 and 6 are 18.

You can see that 13 and 4 is like 3 and 4. So 13 and 4 are 17. Say the sums for the examples in Rows **1** and **2**. Say, "12 and 6 are 18, 12 and 7 are 19," and so on.

	A	B	C	D	E	F	G	H
1.	12 6	12 7	14 1	14 4	14 2	14 5	13 1	13 5
2.	13 4	13 6	13 2	10 1	17 2	18 1	11 8	12 4

Copy the examples below and write the sums.

3.	17 2	15 4	12 5	10 6	18 1	10 9	13 6	14 4
4.	11 5	13 1	12 6	17 1	10 3	16 2	11 7	11 4
5.	12¢ 7¢	14¢ 2¢	13¢ 3¢	14¢ 5¢	13¢ 4¢	15¢ 2¢	12¢ 3¢	13¢ 5¢

PUTTING MONEY IN BANKS

The children add the money they put in their banks so they will know how much they have saved. Find the answers to the questions.

1. Mary had 7¢ in her bank. Then she put in 8¢ more. She has 3¢ to put in today. How much money will she have in her bank altogether?

Write the example and add down. Add 7 and 8. Think 15 and add 3. You know that 15 and 3 is like 5 and 3. So 15 and 3 are 18. Write 18¢ in the sum. How much money will Mary have in her bank altogether?

$$\begin{array}{r}7\text{¢}\\8\text{¢}\\3\text{¢}\\\hline 18\text{¢}\end{array}$$

2. Alan had 7¢ in his bank. He put in 5¢ more. Now he has 6¢ to put in the bank. How much money will he have in his bank?

Write the example and add down. Add 7 and 5. Think 12, and add 6. Think the sum of 12 and 6. Write it.

$$\begin{array}{r}7\text{¢}\\5\text{¢}\\6\text{¢}\\\hline \end{array}$$

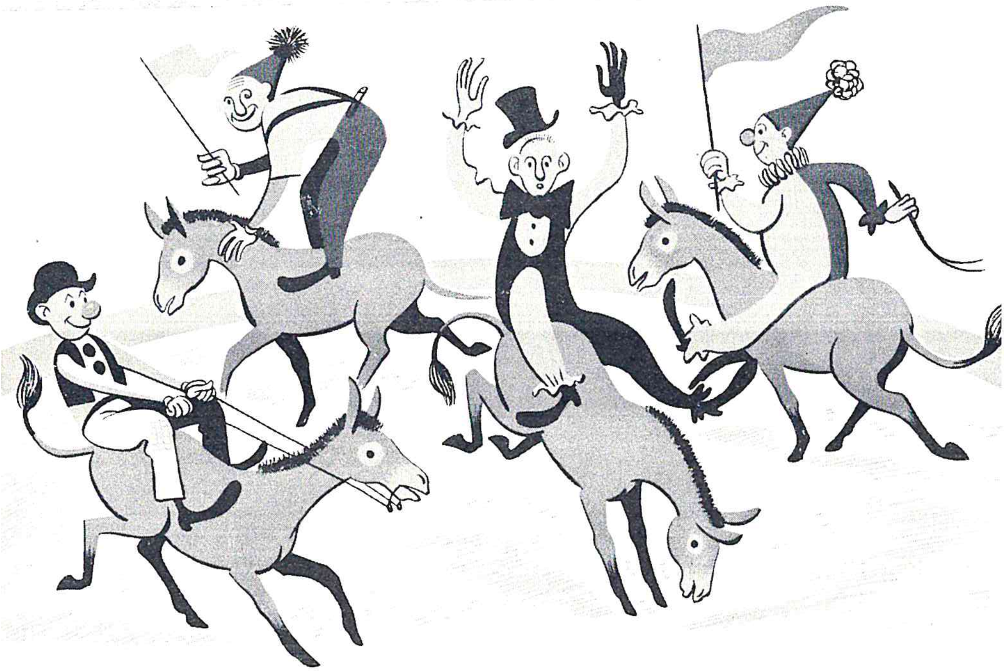
PRACTICE IN COLUMN ADDITION

Fold a paper under the examples in Rows **1, 2,** and **3.** Add down, and write the sums. Check by adding down again.

	A	B	C	D	E	F	G	H	I	J
1.	4	7	9	1	6	9	4	6	8	9
	8	5	7	9	7	5	9	8	3	6
	3	6	3	5	5	3	2	2	2	4
2.	5	7	6	4	7	3	2	3	6	2
	6	7	8	9	6	9	8	8	6	9
	1	1	5	1	6	4	8	6	2	3
3.	4	9	6	3	5	7	4	7	8	9
	6	2	5	7	8	9	8	4	9	4
	4	5	8	2	4	1	5	6	2	1

Copy the examples below. Make the figures carefully, and keep the columns straight. Begin at the top and add down. Write the sums. Check your work by adding down again.

4.	5	8	7	8	8	9	6	9	5	7
	6	4	3	5	6	5	9	4	9	6
	7	7	7	4	5	4	1	3	3	2
5.	7	9	6	4	6	5	8	9	9	8
	8	8	5	7	9	7	8	3	9	7
	3	1	4	3	4	2	2	1	1	2



AT THE CIRCUS

Tom and James went to the circus. They saw many clowns and animals. Read the problems about the circus. Then find the answers to the questions that are asked in the problems.

1. The animals were in the rings when the circus began. Five elephants were in the first ring, 7 white horses were in the second ring, and 7 monkeys were in the third ring. How many animals were in all of the rings together?

2. Then some clowns came out. The 7 clowns in the first ring were tumbling. The 4 in the second ring were riding donkeys, and the 5 in the third ring were rolling hoops. How many clowns were there in all?

3. After the clowns left, 15 horses ran into the rings, and 8 dogs ran after them. How many more horses than dogs were there in the rings?

4. Just then the boys saw the balloon man. He had 3 red balloons, 8 green ones, and 8 blue ones. How many balloons did the man have?

5. The boys looked at the rings again. They counted 6 seals, 8 bears, and 1 elephant in the rings. How many animals were there in all?

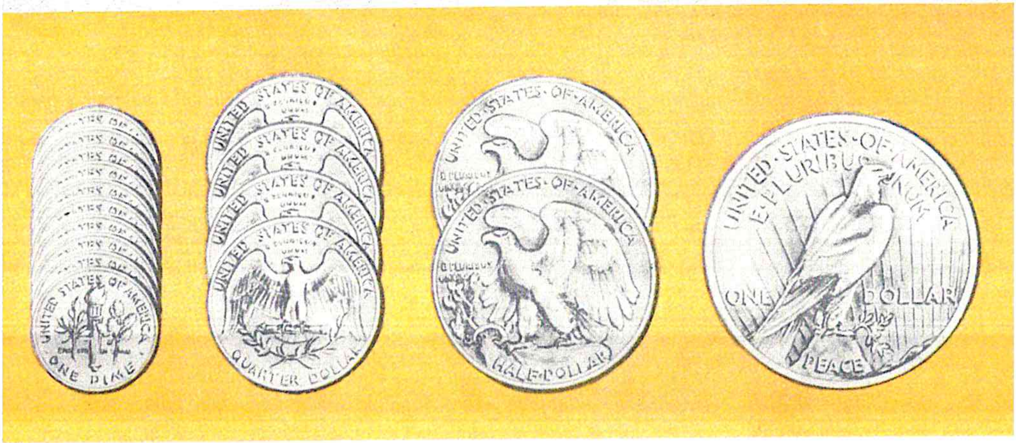
6. Then 7 tall clowns ran into the rings, and 7 short clowns ran after them. Soon 4 more clowns came. How many clowns were there in all?

7. The elephants came in next. In the first ring 6 elephants were dancing. In the second ring 9 elephants were lifting clowns with their trunks. In the third ring 2 baby elephants were standing on drums. How many elephants were there altogether?

8. A boy had 16 bags of peanuts to sell at the circus. He sold 7 bags. How many were left?

Say the answers for the examples below.

	A	B	C
9.	$13+6=?$	$13+4=?$	$18+1=?$
10.	$16+1=?$	$15+2=?$	$12+7=?$
11.	$13+3=?$	$10+9=?$	$13+5=?$
12.	$10+8=?$	$12+3=?$	$11+6=?$
13.	$15+1=?$	$11+4=?$	$14+5=?$



DIMES, QUARTERS, HALF-DOLLARS, AND DOLLARS

The picture above shows ways in which we can have a dollar. Answer the questions.

1. How many dimes equal one dollar?
2. How many quarters equal one dollar?
3. How many half-dollars equal one dollar?
4. A dollar equals 100 cents. How many cents does a dime equal? a quarter? a half-dollar?
5. A one-dollar bill is another way we can have a dollar. How many cents does it equal?
6. How many dimes equal one half-dollar?
7. How many quarters equal one half-dollar?

▶ Remember:

2 half-dollars = 1 dollar
4 quarters = 1 dollar
10 dimes = 1 dollar
100 cents = 1 dollar
50 cents = 1 half-dollar
25 cents = 1 quarter
1 quarter = one-fourth of a dollar

READING AND WRITING DOLLARS AND CENTS

When we write dollars and cents with figures, we write this sign ($) before any number that means dollars. It is called the **dollar sign.** We use it with a number, this way: ⟶ $3

We read this number with the dollar sign, "three dollars."

In the second number there is a mark between the figure that means dollars and the figures that mean cents. This mark is called a **point.** We say **and** for the point when we read dollars and cents. We read this number, "three dollars **and** fifty-seven cents."

$3.57

1. Read these numbers. Remember to say "and" for the point: $3.68; $2.35; $4.87.

We must always have **two places** for cents when we use the point in writing money. In the number $3.50, the three means 3 dollars and the fifty means 50 cents. We read this number, "three dollars **and** fifty cents."

2. Read these numbers: $4.80; $6.70; $9.40.

In this number we need a zero so that we have two places for cents. We put the zero to the left of the 8 to make the 8 mean 8 cents. We read this number, "eight cents." We write two dollars and eight cents this way: $2.08.

$ .08

3. Read these numbers: $.07; $8.06; $5.09; $.05.

We may write three dollars this way: → $3.00
We put a point after the 3. The zeros show that there are no cents with the three dollars. We do not read the zeros. We say, "three dollars."

4. Read these numbers: $5.00; $7.00; $4.00.

We may write eighty-five cents with the dollar sign and the point, this way: $.85.

5. Read these numbers: $.70; $.62; $.05; $.09.

Read the numbers below. Be sure to say "and" for the point when you read dollars and cents. Then close your books and write the numbers as your teacher reads them to you.

	A	B	C	D	E
6.	$3.78	$5.00	$ .07	$4.60	$ .93
7.	$2.50	$ .58	$ .35	$2.00	$9.82
8.	$4.09	$8.67	$1.00	$5.16	$7.40
9.	$ .95	$ .04	$3.02	$ .80	$8.29

Write the numbers below in figures. Be sure to write the dollar signs and put in the points. In each number, use two places for cents.

10. Five dollars and eighty-nine cents
11. Eight dollars and seventy cents
12. Nine dollars and five cents
13. Twenty-six cents
14. Seven dollars
15. Eight cents

COUNTING CHANGE

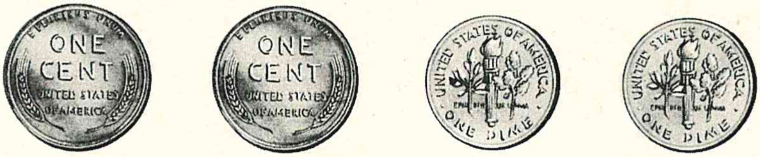
1. Helen had a quarter. She bought some apples for 17¢. The man handed her the change, one piece at a time. He said, "The apples were seventeen cents. Eighteen, nineteen, twenty, twenty-five cents."

Why did he say "eighteen," as he gave her the first piece of money? What pieces of money did he give her as he counted "eighteen, nineteen, twenty"? What piece of money did he give her as he said "twenty-five"?

Did Helen get the right change?

2. Billy had 50¢. He spent 28¢. Below is a picture of his change. Count it. Think 28¢, then count the pennies. Say, "twenty-nine, thirty." Then count a dime and say, "forty." Count the other dime and say, "fifty cents."

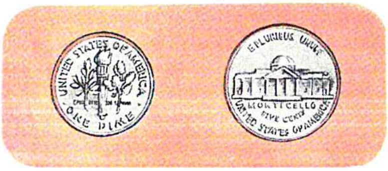
Did Billy get the right change?



▶ We count change this way: We think how much we spent and say it first. Then we count the change with it. If there are any pennies, we count them first. We count each piece until we have counted all of them.

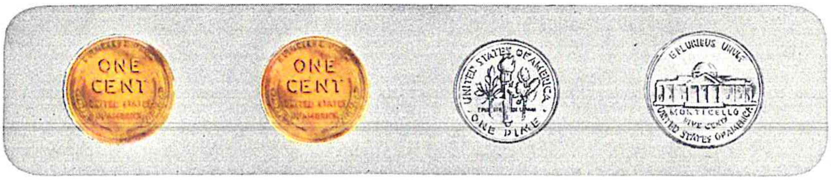
Our change is right if the last number we say is the same as the money we gave to the storekeeper.

Count the money below, the way the storekeeper did when he gave back the change.

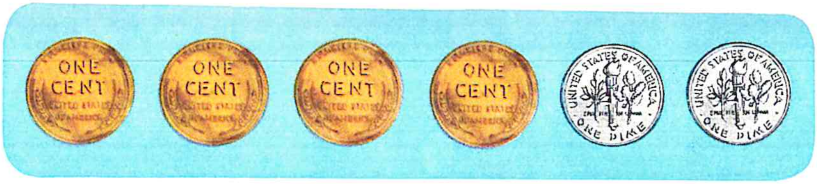


3. Jane had a quarter. She spent 10¢. Did she get the right change? Think "ten cents" first.

4. Susan went to the store for her mother. She spent 58¢ and gave the storekeeper 75¢. Count her change. What should you think first?



5. Alan bought a story book for 76¢. He gave the man $1.00. Did he get the right change? What should you think first?



LEARNING TO JUMP

Helen and Jane are teaching their dogs to jump. Find the dogs' scores.

1. Spot jumped through the hoop 3 times. Then he jumped 3, 7, and 6 times. What was his score?

Write the example and add down. Add 3 and 3. Think 6, and add 7. Think 13, and add 6. Think 19. Write 19 in the sum, with the 9 exactly under the 6. What was Spot's score?

$$\begin{array}{r} 3 \\ 3 \\ 7 \\ \underline{6} \\ 19 \end{array}$$

2. Skippy jumped through a hoop 2 times. Then he jumped 3, 8, and 5 times more. What was his score?

Write the example and add down. First add 2 and 3. Then add 8. Then add 5. What was Skippy's score?

$$\begin{array}{r} 2 \\ 3 \\ 8 \\ \underline{5} \end{array}$$

3. Then the dogs jumped onto a box. Skippy had the first turn. He jumped 6, 3, 7, and 3 times. What was his score?

4. When it was Spot's turn, he jumped 4, 3, 4, and then 8 times. What was his score?

5. Next, the dogs jumped over a stick. Spot went first this time. He jumped 3, 3, 5, and 5 times. What was his score?

6. Skippy jumped over the stick 2, 6, 6, and 3 times. What was his score?

Write the sums for these two rows of examples on folded paper. Add down. Check your work.

	A	B	C	D	E	F	G	H	I	J
7.	1	2	3	2	6	3	1	3	2	2
	5	7	2	5	2	6	1	6	4	7
	8	1	1	3	5	1	8	5	3	6
	4	3	3	9	4	7	2	2	6	3
8.	2	5	6	1	6	1	3	4	1	5
	2	3	3	4	1	3	1	3	8	3
	6	2	6	9	7	9	5	4	8	8
	8	5	4	1	1	6	9	3	2	3

Copy this row of examples and add. Check your work.

9.	4	3	3	1	5	1	5	5	1	4
	5	2	4	7	2	1	4	1	8	4
	2	1	9	8	8	9	2	6	8	3
	7	2	1	2	1	3	5	5	1	1

MAKING SURE OF SUBTRACTION

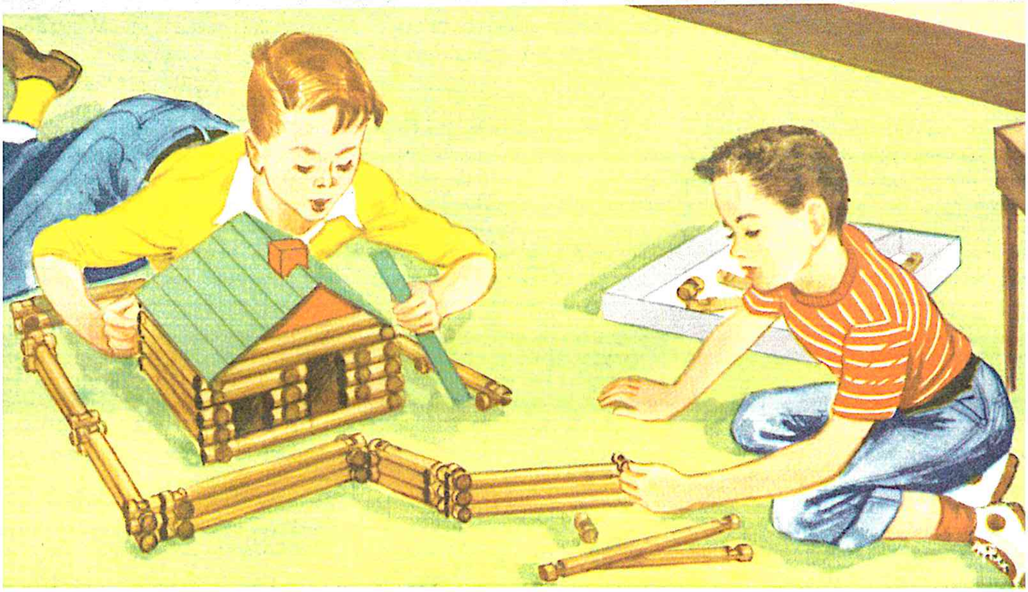
Write on folded paper the remainders for the examples in Rows **1, 2, 3,** and **4.** Check your work.

	A	B	C	D	E	F	
1.	68 31	46 24	87 25	98 77	89 43	75 32	**89**
2.	94 50	80 60	96 26	70 40	95 15	79 60	**135** **136** **137**
3.	116 42	155 84	139 98	166 81	149 94	129 42	**111**
4.	113 30	130 50	127 97	160 70	129 89	166 90	**135** **136** **137**

Copy Rows **5** and **6** and subtract. Check your work.

5.	185 93	149 86	136 45	178 93	154 63	157 92	**111**
6.	108 95	105 60	101 20	103 53	100 80	107 30	**146**

If you missed any examples, turn to the pages given at the ends of the rows. Learn how to do the examples you missed. If you missed any of the subtraction facts, copy and learn them. You can find them in the back of your book.



BUILDING WITH LOG CABIN BLOCKS

Tom and Billy are building with their log cabin blocks. Write the answers to the questions about the blocks and the things the boys made with them.

1. Tom has 108 pieces in his set of blocks. Billy has 90 pieces in his set. How many fewer pieces are there in Billy's set of blocks?

2. Tom used 48 of his 108 pieces to build a cabin. How many pieces did he have left?

108
-48
60

3. Billy used 30 of his 90 pieces to build a fence. How many pieces did he have left?

90
-30

4. Tom wants to build a fort and a blockhouse. He needs 80 pieces to make the fort and 25 to make the blockhouse. How many pieces does he need to make both? Does Tom have enough blocks in his set to make them?

80
25
105

MORE ADDING WITH TWO-PLACE NUMBERS

1. In this example, add the ones first. Think, 1 and 2 are 3, and 3 are 6, and 2 are 8. The sum of the ones is 8.

Now add the tens. Think, 4 and 2 are 6, and 1 are 7, and 9 are 16. The sum of the tens is 16. Now read the sum for the example.

41
22
13
92
168

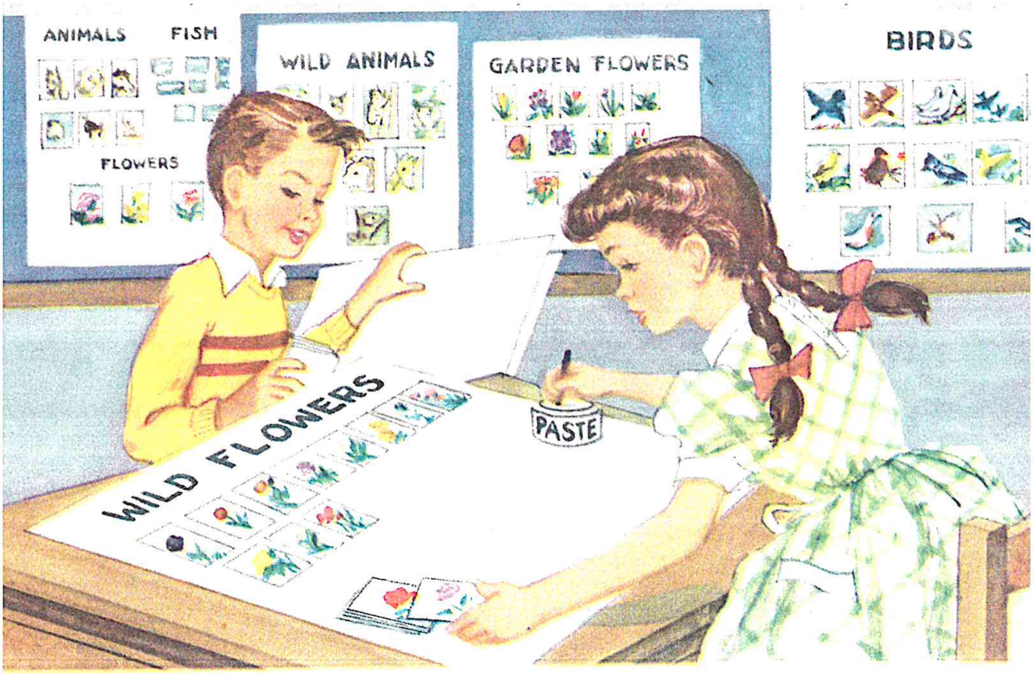
2. In this example, add the figures in the ones' column. Think, 1 and 4 are 5, and 1 are 6, and 1 are 7. The sum of the ones is 7.

Now add the figures in tens' column. Think, 3 and 5 are 8, and 7 are 15, and 4 are 19. The sum of the tens is 19. Read the sum for the example.

31
54
71
41
197

Copy the examples below and add.

	A	B	C	D	E	F	G	H
3.	30	12	21	21	31	41	81	70
	11	30	11	31	5	72	97	92
	33	22	20	4	12	66	11	27
	12	14	47	12	41	179	189	189
	86	78	99	68	89			
4.	6	21	20	41	21	64	71	60
	41	41	12	51	62	31	5	6
	11	36	25	52	43	60	62	90
	31	91	81	13	53	24	21	32



PICTURES FOR SCIENCE

The boys and girls have sets of pictures to use in science. Read these problems to find how many pictures they have. Write the answers to the questions asked in the problems.

1. Susan has 64 pictures of garden flowers, 80 of wild flowers, and 32 of flowers that grow indoors. How many pictures does Susan have altogether?

2. Judy has 31 pictures of goldfish, 14 of fresh-water fish, 22 of shellfish, and 31 of fish that live in the sea. How many pictures does Judy have in all?

3. Jane has 22 pictures of farm animals, 40 of pets, 31 of wild animals, and 6 of animals that lived long ago. How many pictures does Jane have?

4. James has 73 colored pictures of birds, 43 of animals, and 11 of flowers. How many pictures does James have altogether?

Write on folded paper the sums for the examples in Rows **5, 6,** and **7.** Check your work.

	A	B	C	D	E	F	G	H
5.	10	20	20	11	10	30	7	20
	60	30	20	23	5	30	42	7
	11	14	20	10	42	6	20	21
	16	20	10	54	31	33	10	41
6.	73	62	11	31	81	90	26	60
	84	55	91	85	30	94	80	96
	11	82	96	62	57	14	61	21
7.	77	50	52	61	70	13	82	30
	41	60	55	73	90	90	86	90
	20	49	20	13	10	70	20	30

Copy the examples in Rows **8** and **9** and add. Then check your work.

8.	92	71	80	74	50	84	91	40
	81	75	50	31	97	43	28	73
	23	10	38	40	52	20	70	35
9.	12	30	71	61	21	4	73	80
	60	10	22	35	41	31	50	22
	13	20	32	42	86	72	5	10
	32	60	4	61	21	52	41	5

QUARTS AND GALLONS

Billy's father took the boys to the park in his car. On the way he bought 10 gallons of gasoline. The man checked the oil and said, "You need a quart of oil, too."

James asked, "How many quarts of oil are there in a gallon?"

Billy's father answered, "Four quarts make a gallon. The car holds only five quarts of oil, but it holds fifteen gallons of gasoline."

1. John's mother buys a quart of milk each day. In how many days does she buy a gallon?

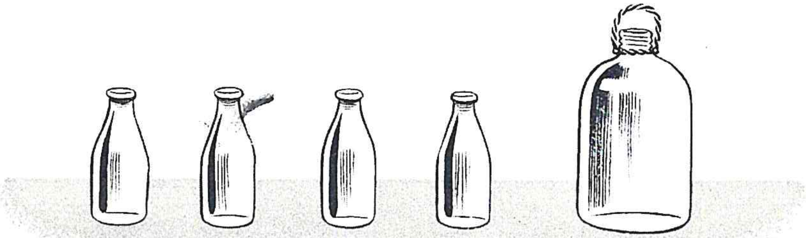
2. Tom's mother buys two quarts of milk a day. In how many days does she buy a gallon?

3. How many quarts are there in 2 gallons?

4. In what other ways do we use quarts and gallons?

5. Tell which are quart measures and which is the gallon measure in the picture below. What might we measure with them?

▶ Remember: **4 quarts = 1 gallon**



PRACTICING ADDITION AND SUBTRACTION

1. Add each of these numbers to 10 and say the sums: 3, 9, 7, 5, 8, 6, 4, 1, and 2.

2. Add each of these numbers to 11 and say the sums: 8, 6, 4, 7, 5, 3, 2, and 1.

3. Add each of these numbers to 12 and say the sums: 7, 5, 3, 1, 6, 2, and 4.

4. Add each of these numbers to 13 and say the sums: 6, 4, 2, 5, 1, and 3.

5. Add each number to 14: 5, 2, 4, 1, and 3.

6. Add each number to 15: 4, 2, 3, and 1.

7. Add each number to 16: 3, 1, and 2.

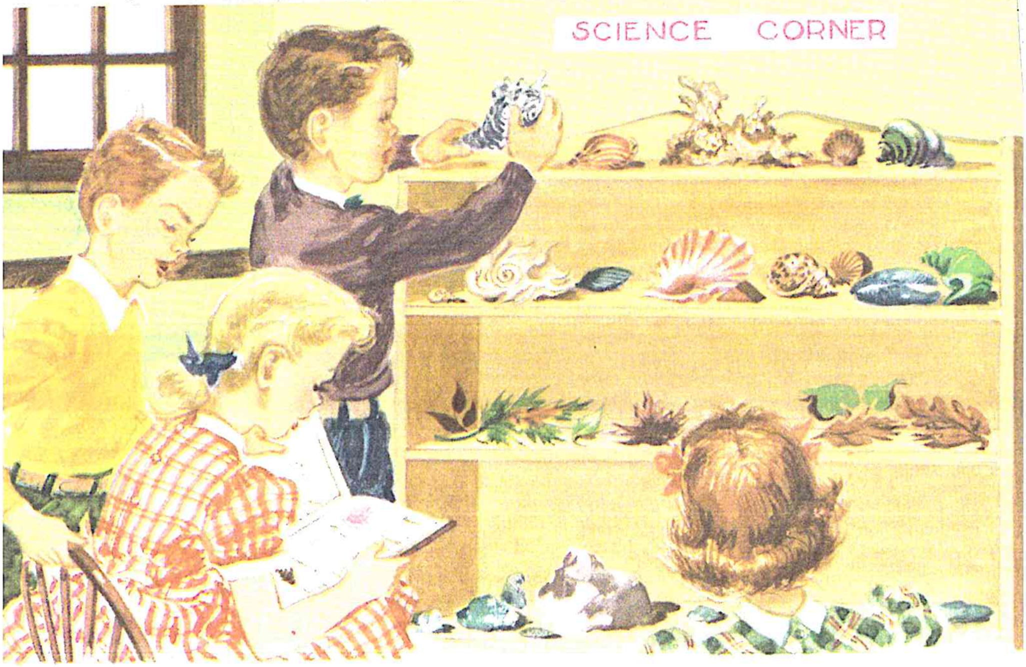
8. Add 17 and 1; 17 and 2; 18 and 1.

Write the examples in Rows **9, 10,** and **11** in columns. Be careful to place the numbers exactly under each other. Then add.

	A	B	C
9.	$2+3+7+6$	$2+2+8+1$	$2+9+3$
10.	$3+5+6+2$	$1+3+9+2$	$4+7+2$
11.	$1+5+8+4$	$1+7+9+1$	$1+9+3$

Copy the examples below and subtract.

	A	B	C	D	E	F
12.	117 21	176 83	108 42	138 68	145 63	122 52
13.	137 87	129 68	147 75	106 74	142 50	115 72



BORROWING THINGS FOR SCIENCE CLASS

The boys and girls borrowed shells, rocks, leaves, and seeds to use in science class. These problems tell what they borrowed.

Read each problem and decide what you should do to find the answer to the question. Then use the numbers in the problem to find the answer.

1. They borrowed 61 shells from the fifth grade, 40 from the fourth grade, and 11 from children in the room. How many shells did they get?

2. The sixth grade gave them three boxes of rocks. Twenty of the rocks were smooth, 90 were sharp, and 18 were flat. How many rocks were there altogether?

3. Mr. Smith gave them 32 small boxes for the rocks and shells. They used only 22 of them. How many boxes were left?

4. The children borrowed leaves that the fifth grade had pressed in the fall. There were 12 leaves from bushes, 34 leaves from shade trees, 80 leaves from weeds, and 12 leaves from fruit trees. How many leaves did they borrow in all?

5. The children brought seeds from home. They brought 35 beans, 92 grains of corn, and 40 peas. How many seeds did they bring?

6. Miss Martin brought 108 paper cups so that they could plant the seeds. They used only 98 of them. How many cups were left?

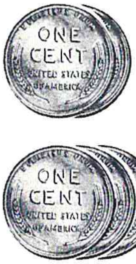
Check your work. Do the answers you have written answer the questions that were asked? If not, read again each problem that you missed. Think what the problem tells and what the question asks. Find the answer to the question.

7. Copy the examples below and add.

A	B	C	D	E	F
90	33	62	10	30	10
80	30	43	40	56	50
3	54	20	60	40	71
15	20	4	78	70	17

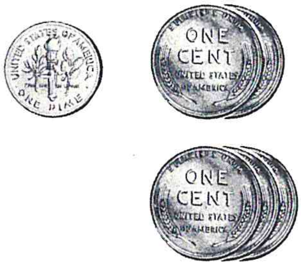
ADDING WITH DIMES AND PENNIES

A



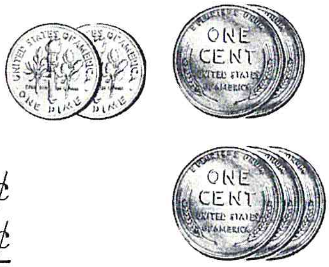
2¢
3¢

B



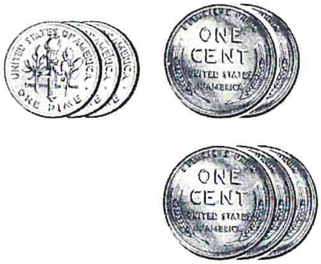
12¢
3¢

C



22¢
3¢

D



32¢
3¢

1. Look at Picture **A**. You see 2¢ and 3¢. You know that 2¢ and 3¢ are 5¢.

2. Picture **B** shows that 12¢ is ten cents more than 2¢. You know that 2¢ and 3¢ are 5¢. So 12¢ and 3¢ are 15¢.

3. Look at Picture **C**. You know that 2¢ and 3¢ are 5¢. So 22¢ and 3¢ are 25¢.

4. Look at Picture **D**. You can see that 32¢ and 3¢ are 35¢. Why?

Look at the examples below. The first is 2 + 3. The others are like the first. Say the sums.

$$\begin{array}{r} 2 \\ 3 \\ \hline \end{array} \qquad \begin{array}{r} 12 \\ 3 \\ \hline \end{array} \qquad \begin{array}{r} 22 \\ 3 \\ \hline \end{array} \qquad \begin{array}{r} 32 \\ 3 \\ \hline \end{array}$$

ADDING ONE-PLACE NUMBERS TO TWO-PLACE NUMBERS

1. You know that 3 and 5 are 8. You see that 13 and 5 is like 3 and 5. Then 13 and 5 are 18.

3	13	23	33
5	5	5	5
8			

Look at 23 and 5. You see that 23 and 5 must be 28. Why?

Look at 33 and 5. How do you know that 33 and 5 must be 38?

Do you see how all of the examples above are like 3 and 5? You can see what the sums are because you know that 3 and 5 are 8. Say the sums.

2. Say the sums for the examples below. In Group A, think, 6 and 2 are 8; 16 and 2 are 18; 26 and 2 are 28; 36 and 2 are 38.

A.	6	16	26	36	**E.**	3	13	23	33
	2	2	2	2		3	3	3	3
B.	5	15	25	35	**F.**	4	14	24	34
	4	4	4	4		3	3	3	3
C.	3	13	23	33	**G.**	2	12	22	32
	6	6	6	6		7	7	7	7
D.	2	12	22	32	**H.**	5	15	25	35
	4	4	4	4		3	3	3	3

ANOTHER ARITHMETIC GAME

The third grade plays a game with cards on which groups of examples are written. They give the sums of the examples. Then they check to see if their answers are correct.

Write the sums for the examples below on folded paper. Check to see if you missed any.

A.	14 4	24 4	34 4	**E.**	12 5	22 5	32 5
B.	17 2	27 2	37 2	**F.**	15 2	25 2	35 2
C.	14 5	24 5	34 5	**G.**	12 6	22 6	32 6
D.	16 3	26 3	36 3	**H.**	13 4	23 4	33 4

MAKING SURE OF ADDITION FACTS

Write the sums for the examples below on folded paper. Then check your work.

	A	B	C	D	E	F	G	H	I	J
1.	9 1	5 3	7 9	8 2	4 4	6 8	9 5	4 7	3 8	8 7
2.	6 4	9 9	3 4	5 2	7 8	4 9	6 3	8 8	5 6	7 2
3.	5 9	7 5	8 3	4 6	9 2	6 9	3 7	8 5	2 5	7 7
4.	4 5	2 7	9 6	5 4	8 6	3 5	9 8	7 4	2 8	6 5
5.	7 6	3 9	8 4	6 6	2 9	5 8	1 9	6 2	9 3	4 3
6.	5 7	9 4	6 7	8 9	3 6	7 3	9 7	4 8	2 6	5 5

Did you know all of the addition facts in the test? You will need them to do the work on the pages that follow. If you missed any of the facts, find them in the back of your book. Copy and learn those you missed.

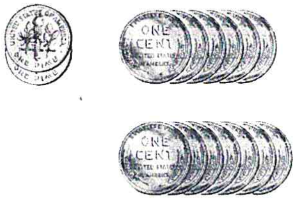
ADDING DIMES AND PENNIES AGAIN

$$\begin{array}{r} 6¢ \\ \underline{7¢} \end{array}$$

1. Look at the first picture. You know that 6¢ and 7¢ are 13¢.

$$\begin{array}{r} 16¢ \\ \underline{7¢} \end{array}$$

2. The second picture shows 16¢ and 7¢. You can see that 16¢ and 7¢ is like 6¢ and 7¢. So 16¢ and 7¢ must be 23¢.



$$\begin{array}{r} 26¢ \\ \underline{7¢} \end{array}$$

3. The third picture shows 26¢ and 7¢. Do you see that 26 and 7 is like 6 and 7? What are 6 and 7? Then 26 and 7 must be 33. What are 26¢ and 7¢?

4. You know that 5 and 6 are 11. You can see that 15 and 6 is like 5 and 6. Then 15 and 6 must be 21. Say the sum.

$$\begin{array}{r} 5 \\ \underline{6} \end{array} \qquad \begin{array}{r} 15 \\ \underline{6} \end{array} \qquad \begin{array}{r} 25 \\ \underline{6} \end{array}$$

5. How is 25 and 6 like 5 and 6? Say the sum of 5 and 6. What is the sum of 25 and 6?

6. You know the sum of 4 and 8. Say the sums for these examples:

$$\begin{array}{r} 4 \\ \underline{8} \end{array} \qquad \begin{array}{r} 14 \\ \underline{8} \end{array} \qquad \begin{array}{r} 24 \\ \underline{8} \end{array}$$

PRACTICING OLD AND NEW ADDITION FACTS

You know the sum for one example in each group below. The one you know will help you say the sums for the other examples in that group.

1. You know that the sum of 3 and 8 is 11. 13 and 8 is like 3 and 8. What is the sum of 13 and 8? You know that 23 and 8 is also like 3 and 8. What is the sum of 23 and 8?

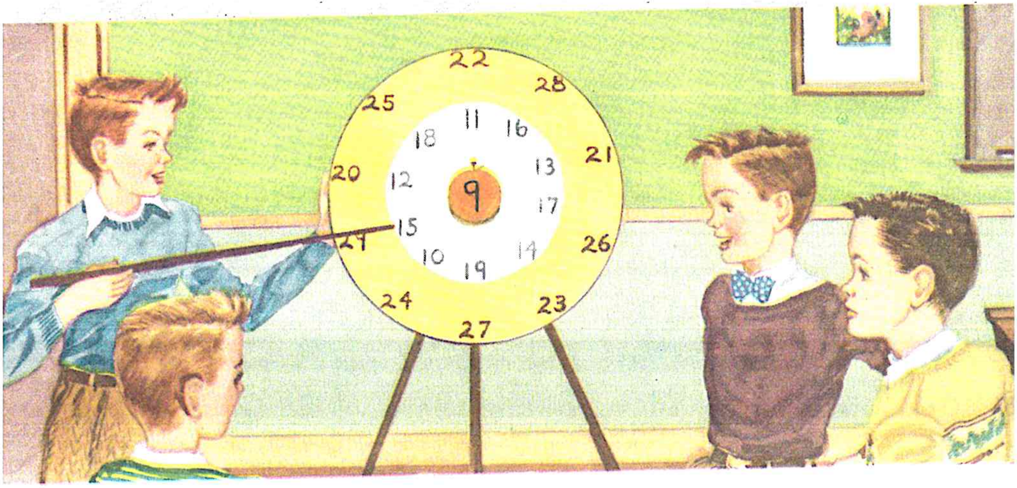
$$\begin{array}{rrr} 3 & 13 & 23 \\ \underline{8} & \underline{8} & \underline{8} \end{array}$$

2. You know that the sum of 7 and 3 is 10. What is the sum of 17 and 3? of 27 and 3?

$$\begin{array}{rrr} 7 & 17 & 27 \\ \underline{3} & \underline{3} & \underline{3} \end{array}$$

Say the sums for the examples below. The sum of the second example and of the third example in each group is ten more than the one before it.

$$\begin{array}{lrrrrrrrrr}
 & & \text{A} & & & \text{B} & & & \text{C} & \\
\textbf{3.} & 6 & 16 & 26 & 8 & 18 & 28 & 2 & 12 & 22 \\
 & \underline{6} & \underline{6} & \underline{6} & \underline{7} & \underline{7} & \underline{7} & \underline{9} & \underline{9} & \underline{9} \\
\textbf{4.} & 6 & 16 & 26 & 7 & 17 & 27 & 6 & 16 & 26 \\
 & \underline{8} & \underline{8} & \underline{8} & \underline{5} & \underline{5} & \underline{5} & \underline{9} & \underline{9} & \underline{9} \\
\textbf{5.} & 8 & 18 & 28 & 7 & 17 & 27 & 8 & 18 & 28 \\
 & \underline{8} & \underline{8} & \underline{8} & \underline{7} & \underline{7} & \underline{7} & \underline{5} & \underline{5} & \underline{5} \\
\textbf{6.} & 9 & 19 & 29 & 7 & 17 & 27 & 6 & 16 & 26 \\
 & \underline{9} & \underline{9} & \underline{9} & \underline{6} & \underline{6} & \underline{6} & \underline{4} & \underline{4} & \underline{4}
\end{array}$$



A NEW GAME

The boys are playing a game with addition facts. The game is played by adding the number in the center to each of the numbers around the board. Each boy has a turn. He gets a point for his team for each correct sum. The boys change the number in the center for each player.

See how well you can play the game.

1. Add 9 to each of these numbers:
   11, 22, 16, 28, 13, 21, 17, 26, 14, 23,
   19, 27, 10, 24, 15, 29, 12, 20, 18, 25.

2. Now add 8 to each number above; then add 7, 6, 5, 4, 3, 2, and 1 to each number.

Write the sums for the examples below.

3.	19	28	15	29	14	29	18	25
	8	4	7	4	6	8	4	6
4.	25	19	24	15	14	23	24	13
	7	4	6	6	9	7	9	7

COUNTING CANS OF FOOD

Mother asked Susan to count the cans of food on the shelves. Read the problems and answer the questions.

1. Susan counted the fruit first. She found 7 cans of apples, 8 cans of pears, and 9 cans of peaches. How many cans of fruit did she count?

Write the numbers. Add 7 and 8. Think 15, and add 9. Think 24. Write the sum. How many cans of fruit did Susan count?

$$\begin{array}{r} 7 \\ 8 \\ 9 \\ \hline 24 \end{array}$$

2. Susan counted the cans of tomatoes: 9 large cans, 6 small cans, and 7 cans of tomato juice. How many did she count in all?

3. The other vegetables were on another shelf. There were 8 cans of peas, 7 cans of beets, 9 cans of corn, and 8 cans of beans. How many cans of vegetables were on this shelf?

Write the numbers. Add 8 and 7. Think 15, and add 9. Think 24, and add 8. Think 32. Write the sum. How many cans of vegetables were on this shelf?

8
7
9
8

4. Susan counted the glasses of jelly, too. She counted 6 glasses of grape jelly, 4 glasses of peach, 9 glasses of apple, and 5 glasses of plum. How many glasses of jelly were there in all?

Copy the examples below and add.

	A	B	C	D	E	F	G	H	I	J
5.	9	5	3	5	9	8	5	9	8	6
	4	7	9	5	9	7	8	2	9	9
	9	8	9	6	3	5	8	9	9	8
6.	4	3	3	8	3	3	5	1	2	2
	5	7	6	3	2	5	4	4	1	3
	7	8	9	8	7	8	3	9	6	6
	5	6	2	6	8	8	9	8	4	9
7.	8	9	9	6	3	9	5	7	9	6
	9	3	6	5	8	7	9	9	9	9
	4	7	8	8	8	6	8	7	8	9
	9	3	9	2	7	8	8	9	5	7

ADDING UP TO CHECK

Mary said, "Miss Martin, I know another way to check addition examples."

Miss Martin said, "Show us how you do it, Mary."

Mary wrote this example on the blackboard. She began at the top and added down. She wrote the sum, 24. Then she began at the bottom and added up. She said, "3 and 8 are 11, and 9 are 20, and 4 are 24." She wrote this sum under the other sum.

Mary said, "The sum is the same when I add up as it is when I add down. So I am sure my work is correct."

$$\begin{array}{r} 4 \\ 9 \\ 8 \\ 3 \\ \hline 24 \\ \\ 24 \end{array}$$

Miss Martin said, "That is a good way to check, Mary. If we have a different sum when we add up, we must add again to find our mistake. When we get the same sum twice, we can be quite sure that our work is correct."

Copy the examples below and add down. Then add up to check. If you get a different answer the second time, add again to see which is correct.

A	B	C	D	E	F	G	H	I	J
2	2	4	5	3	8	4	6	9	9
4	3	7	7	7	7	9	4	7	4
5	9	8	8	9	8	9	9	9	6
9	7	3	5	4	7	8	8	9	9

ADDING COLUMNS OF TWO-PLACE NUMBERS

Study the four examples on this page.

1. In this example, first add the ones. Think, 2 and 1 are 3, and 4 are 7. Where should you write the 7?

Now add the tens. Think, 8 and 6 are 14. Add 7, and think 21. Where should you write the 21?

$$\begin{array}{r} 82 \\ 61 \\ 74 \\ \hline 217 \end{array}$$

2. In this example, add the ones. What should you write in ones' place in the sum?

Now add the tens. Think, 8 and 7 are 15. Add 6, and think 21. Add 9, and think 30. Where should you write the 30 in the sum?

$$\begin{array}{r} 84 \\ 72 \\ 62 \\ 90 \\ \hline 308 \end{array}$$

3. In this example, what should you write in ones' place in the sum? Why?

Now add the tens. Add 2 and 7, and think 9. Add 6, and think 15. Add 5, and think 20. Where should you write the 20 in the sum?

$$\begin{array}{r} 20 \\ 70 \\ 60 \\ 50 \\ \hline 200 \end{array}$$

4. In this example, add the ones. What is the sum for this column? What figures should you add in tens' column? What is the sum?

$$\begin{array}{r} 70 \\ 4 \\ 72 \\ 61 \\ \hline \end{array}$$

Copy the examples without their sums. Then close your book and add.

PRACTICING WHAT YOU HAVE LEARNED

Fold a paper under the examples in Rows **1**, **2**, and **3** and add. Add down first, then add up to check your work. If you need more help, play the game on page 186, and study pages 188 and 190 again.

	A	B	C	D	E	F	G	H
1.	35 81 92	80 65 63	91 80 98	83 46 90	70 70 98	90 33 80	79 80 70	90 70 50
2.	21 72 93 33	30 51 95 61	33 60 81 82	60 70 83 5	52 90 2 80	20 90 9 90	40 6 80 90	8 90 90 20
3.	81 82 92 81	32 74 83 50	73 61 70 65	80 70 81 96	70 50 80 50	80 50 90 84	90 55 70 90	70 90 76 70

Copy the examples below. Add and check.

4.	80 32 45 60	50 8 80 81	22 42 90 63	50 46 60 80	60 40 90 10	42 72 94 91	62 80 63 84	93 13 90 32

5. 90 + 7 + 21 + 40

6. 60 + 60 + 20 + 99

7. 43 + 94 + 51 + 70

8. 50 + 77 + 62 + 60

FINDING THE DIFFERENCE

The problems on this page show how we use subtraction to find the **difference.** Read them and find the answers to the questions.

1. Helen's book cost 75¢ and Judy's cost 98¢. What is the difference in the cost of the books?

2. Tom's father is 42 years old and his mother is 32 years old. What is the difference between their ages?

3. John's age is 8 years and Fred's age is 16. What is the difference between their ages?

4. Alan has 67¢ and Susan has 50¢. What is the difference between Alan's money and Susan's money?

5. Mr. Wilson has 143 turkeys on his farm. Mr. Green has only 70 turkeys. What is the difference in the number of turkeys?

6. John has 37 marbles and Billy has 12. What is the difference in the number of Billy's marbles and John's marbles?

7. What is the difference between 189 and 95?

8. Copy these examples. Find the differences.

A	B	C	D	E	F
172	159	147	126	138	164
90	73	94	76	93	90

FINDING WHO IS TALLER AND HEAVIER

Miss Hill is weighing and measuring the children. Read the problems and write the answers to the questions in the problems.

1. Alan weighs 68 pounds and Billy weighs 58 pounds. How much heavier is Alan than Billy?

2. Susan is 50 inches tall. She said, "My mother is 64 inches tall."

How much taller is her mother than Susan?

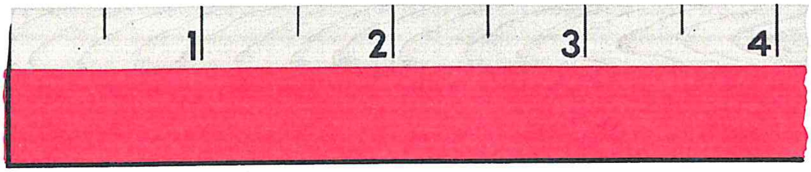
3. Mary weighs 66 pounds and Judy weighs 52 pounds. Find the difference in their weights.

4. James said, "I am 51 inches tall. My father is 67 inches tall."

How much taller is James's father?

5. Jane said, "I weigh 56 pounds, and Mother weighs 127 pounds."

What is the difference between Jane's weight and her mother's?



MEASURING BY INCHES AND HALF-INCHES

1. The picture shows part of a ruler. The longer lines and the numbers show the inches. How many inches are there on this ruler?

2. The lines between the inch lines show half-inches. There is one half-inch from one line to the next on this ruler. How many half-inches are there in one inch?

3. Find 2 inches on the ruler. Find 3 inches. Find 4 inches. Find 1 inch.

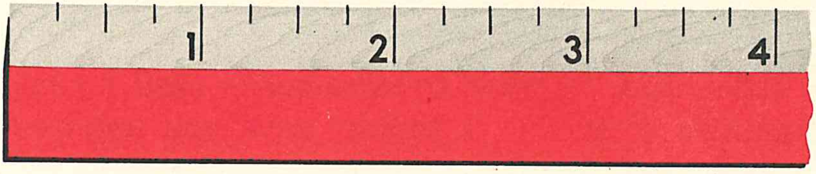
4. Find 1 and one-half inches; 3 and one-half inches; 2 and one-half inches.

5. Lay a piece of paper beside the ruler. Mark 2 inches on the paper. Mark 3 inches. Put a half-inch mark between the 2- and 3-inch marks.

6. Fold the paper over and measure 3 and one-half inches on it. Put a mark to show 3 and one-half inches.

7. Draw a line that you think is 2 and one-half inches long. Measure it to see how long you really made it.

8. Draw a line that you think is 3 and one-half inches long. Measure the line.



MEASURING BY QUARTER-INCHES

1. There is one-quarter of an inch between one line and the next on this ruler. How many quarter-inches are there in one inch? Do you see that one-quarter of an inch is the same as one-fourth of an inch?

2. How many quarters of an inch are there in one-half of an inch?

3. Find 3 inches on the ruler. Find 3 and one-half inches; 3 and one-quarter inches.

4. Now find 3 and three-fourths inches.

5. Lay a piece of paper beside the ruler. Measure two and one-fourth inches on the paper. Make dots to show two and one-fourth inches.

6. Measure 3 and three-fourths inches on the paper. Make dots to show this.

7. Fold the paper and lay it beside the ruler. Measure and mark 1 inch; 1 and three-fourths inches; 2 and one-fourth inches.

8. Draw a tree 3 and three-fourths inches high.

▶ Remember: 2 half-inches = 1 inch
4 quarter-inches = 1 inch
4 fourth-inches = 1 inch

SENSIBLE ANSWERS

Helen said, "I want to save books until I have hundreds of them. I should have one hundred by next year."

"Not a hundred books, Helen," said Mother. "That is not a very sensible guess. You have only 36 books now, and you get about 10 each year. It would be more sensible to say that you should have 50 books by next year."

Add 36 and 10 to find about how many books Helen will have next year.

When we say that something is sensible, we mean that it makes sense, or is about right.

We can often decide whether our answers to the questions in problems are about right by asking ourselves if the answers are sensible. We do it this way:

1. John had 25 marbles. He gave 12 marbles to James. How many did John have left?

The question asks, "How many did John have left?" John had 25 marbles before he gave any away. To be sensible, the answer must be smaller than 25.

2. Judy bought a book for 50¢ and a puzzle for 15¢. How much did she spend?

Judy said, "I spent 35¢." Was her answer sensible? Why?

DECIDING WHICH ANSWER IS SENSIBLE

Three answers are given for each question on this page. One answer is sensible and the others are not. Read each problem and think what the question asks. Then read the answers and decide which is sensible. Tell why you decide as you do. Why would the other answers not be sensible?

1. Mary had 25¢. She spent 12¢. How much money does she have now?

Mary has 37¢, 25¢, 13¢.

2. James had 29¢. His father gave him 10¢. How much money does he have now?

He has 39¢, 30¢, 19¢.

3. Mrs. Wilson had 9 dozen eggs in a box last night. She sold 3 dozen of them. How many dozen eggs are in the box now?

6 dozen eggs, 12 dozen, 9 dozen

4. Mrs. Wilson's box holds 12 dozen eggs. She has 6 dozen eggs in it now. How many more dozen does she need to fill it?

18 dozen eggs, 12 dozen, 6 dozen

5. Billy saw two puzzles in the store. One was marked 25¢ and the other was marked 10¢. What is the difference in price?

35¢, 15¢, 10¢

READING AND WRITING NUMBERS

1. Read these numbers and tell how many hundreds, tens, and ones there are in each:

A	B	C	D	E	F
463	245	309	187	250	87
157	330	444	352	500	206
404	208	360	121	209	320

2. Tell which is the largest and which is the smallest number in each column.

3. Write the numbers in each column as your teacher reads them. Make each figure carefully.

4. Read these numbers. The first number is read, "three dollars and forty-two cents." The next number is read, "ninety-three cents."

A	B	C	D	E
$3.42	$ .70	$1.36	$4.50	$ .65
$ .93	$3.71	$4.08	$2.89	$1.00
$2.60	$5.00	$ .24	$4.07	$2.10

5. Tell which number means the most money and which means the least money in each column.

6. Find the differences between these numbers:

A. 179 and 84

B. 105 and 35

C. 153 and 60

D. 129 and 48

7. How much less than 138 is 64?

8. How much larger than 24 is 97?

THINK AND ANSWER

If you need help with the questions below, turn to the pages given after the questions.

1. How many pieces would you have if you cut a pie into halves and then cut each piece in half? What part of the pie would each piece be? **(69)**

2. How many half-dollars equal a dollar? **(164)**

3. How many quarters equal a half-dollar? **(84)**

4. How many quarters equal a dollar? **(164)**

5. Which would you rather have, a quarter and two nickels, or four dimes? **(84)**

6. Which is worth more, a one-dollar bill or one hundred pennies? **(164)**

7. How many oranges would you have if you had a dozen and 7 more? **(93)**

8. How many quarts of milk equal a gallon? **(176)**

9. How many half-pints equal a pint? **(114)**

10. How many pints equal a quart? **(114)**

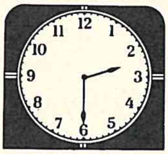
11. How many inches are there in 3 feet? **(78)**

12. How many inches long is a ribbon that is one yard and one foot long? **(78)**

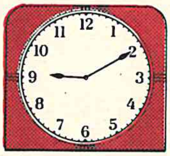
13. How many half-pound boxes of candy weigh one pound together? **(124)**

14. Tell the time shown by these clocks. **(99)**

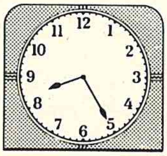
A



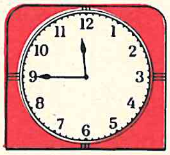
B

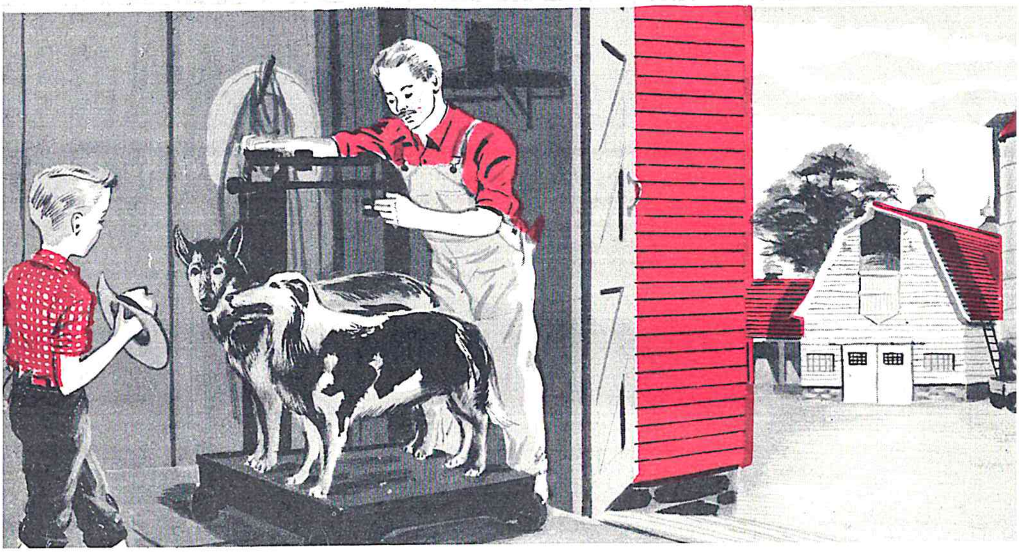


C



D





A DAY AT THE FARM

Read each problem and decide whether to add or subtract to answer the question. Then find the answer to the question. Ask yourself whether the answer makes sense. If it is not sensible, read the problem again and think about it. Then try again.

1. Alan helped Mr. Wilson weigh his two big dogs. Rover and Shep weighed 156 pounds together. Shep weighed 90 pounds when he was weighed alone. How much did Rover weigh?

Will you add or subtract to find Rover's weight?

2. Then Mr. Wilson and Alan weighed themselves. Mr. Wilson weighed 170 pounds, and Alan weighed 90 pounds. How much more did Mr. Wilson weigh?

Will your answer be more or less than 170 pounds?

3. Mary and Alan went with Mr. Wilson to look at the sheep. There were 36 sheep in one field and 42 in another. How many were there in all?

Does he have more, or fewer, than 42 sheep?

4. Alan went with Mr. Wilson to feed the pigs. Mr. Wilson said, "I had 157 pigs, but I sold 67 of them."

How many pigs does he have now? Would he have more, or fewer, than 157 pigs?

5. Mrs. Wilson had put 72 eggs in a box. Mary found 32 more eggs in one chicken house and 44 in another. How many eggs were there in all?

6. Mrs. Wilson had 72 eggs in the box. She put in 72 more. Then how many eggs were in the box?

7. Mrs. Wilson, Mary, and Alan drove to town. At the grocery store, Mrs. Wilson spent 30¢ for tea, 21¢ for beans, 12¢ for bread, and 34¢ for cheese. How much did she spend altogether?

8. Mrs. Wilson bought 39 inches of red oilcloth to cover her kitchen table. How much more than a yard of oilcloth did she buy?

9. Mrs. Wilson stopped at the garage on the way home. She paid 56¢ for gasoline and 40¢ for a quart of oil. How much did she pay for both?

10. Mary helped Mrs. Wilson make soup. She used 1 quart of milk out of a jar that had a gallon in it. How much milk was left in the jar?

MAKING SURE OF SUBTRACTION

Write the remainders on folded paper. If you miss any, turn to the back of your book. Copy and learn the facts you miss.

	A	B	C	D	E	F	G	H	I
1.	11 2	13 6	16 8	12 9	15 8	11 7	17 8	18 9	14 6
2.	13 5	12 8	14 5	11 9	12 4	13 8	15 6	16 9	11 5
3.	14 9	13 4	11 6	12 7	11 3	14 7	12 5	15 7	13 9
4.	17 9	11 4	13 7	12 3	14 8	16 7	11 8	15 9	12 6

Copy the examples below and subtract. If you miss any, turn to the pages given at the ends of the rows. Learn to do those you miss.

	A	B	C	D	E	F	
5.	117 95	139 76	147 53	128 32	158 75	179 84	**111**
6.	150 90	124 84	117 50	119 89	123 40	111 61	**135** **136** **137**
7.	105 75	106 90	109 40	100 60	107 37	101 80	**146**

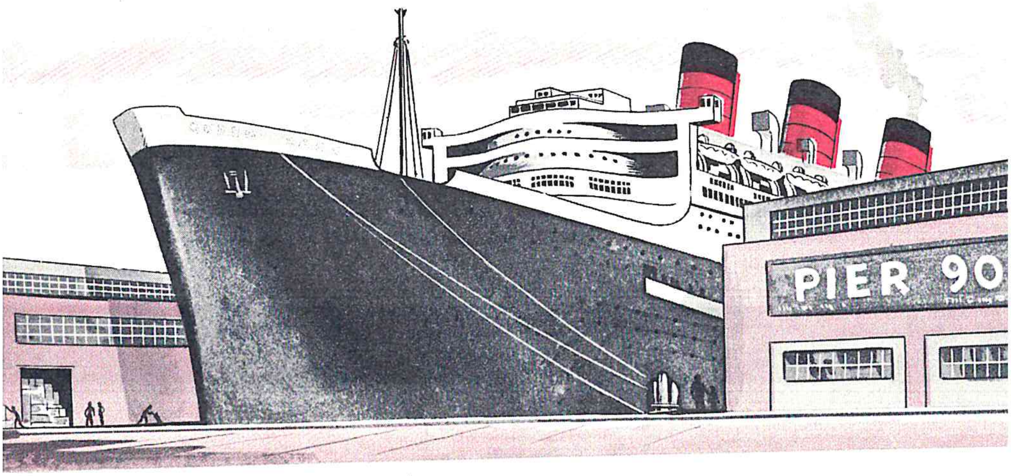
MAKING SURE OF COLUMN ADDITION

Fold a paper under these examples. Add, and write the sums. Check by adding up. If you miss any examples, turn to the pages given at the ends of the rows. Learn to do those that you miss.

	A	B	C	D	E	F	G	
1.	33 91 23	30 71 48	97 20 12	60 40 57	50 94 10	90 30 20	62 90 40	173 174 175
2.	10 74 73 30	30 26 82 30	41 44 81 22	49 20 60 70	40 70 5 50	50 6 60 73	70 81 8 10	173
3.	44 51 70 64	31 41 61 81	30 62 91 60	21 70 46 72	70 4 74 90	80 30 5 93	80 90 50 8	190

Copy the examples in Row **4.** Add, then check by adding up.

4.	70 90 80 99	62 74 71 70	90 80 70 60	40 83 90 95	90 67 91 80	90 92 85 60	80 61 85 90	190



LOOKING AT SHIPS

Alan went with his father to see some friends leave for a trip across the ocean. Alan said, "That is the biggest ship I have ever seen. How long is it?"

Father said, "It is nine hundred seventy-five feet long. That is almost a thousand feet."

1. Count to nine hundred by hundreds. Say "one hundred, two hundred, three hundred," and so on until you come to nine hundred.

We write nine hundred this way: ⟶ 900

Read the next number, and the next, and tell what they mean.

Now read the sum of these numbers. It means 9 hundreds, 7 tens, and 5 ones.

$$\begin{array}{r} 900 \\ 70 \\ 5 \\ \hline 975 \end{array}$$

2. Count by hundreds to ten hundred. Another name for ten hundred is one thousand.

We write one thousand this way: ⟶ 1000

▶ Remember: one thousand = ten hundreds

Read the numbers in Rows **1**, **2**, **3**, and **4**, and tell what each of them means. We read the first number, "seven hundred ninety-three." It means 7 hundreds, 9 tens, and 3 ones.

	A	B	C	D	E	F
1.	793	685	940	806	600	852
2.	904	598	675	910	709	1000
3.	500	503	246	607	700	100
4.	860	989	400	463	802	111

5. Which is the largest number in each row above?

6. Which is the smallest number in each row above?

We may write ten dollars this way: $10.00. We read it, "ten dollars."

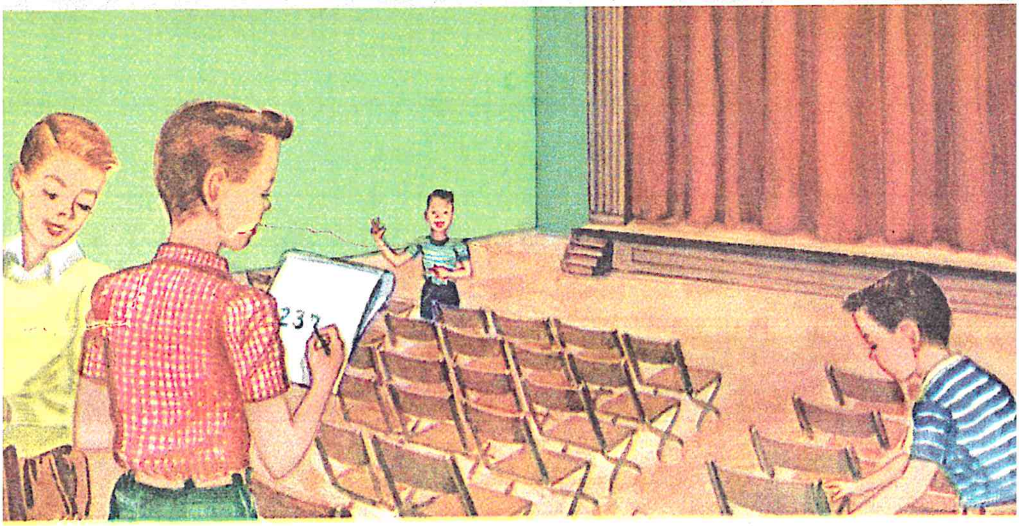
We read the number $6.09, "six dollars and nine cents." We call the point "and" in numbers having dollars and cents.

Read the numbers in Rows **7** and **8**.

	A	B	C	D	E
7.	$5	$5.00	$8.50	$3.27	$11.01
8.	$70.00	$14.75	$7.08	$82.60	$23.00

9. Which number in Row **7** means the most money? in Row **8**?

10. Write the numbers in Rows **1, 2, 3, 4, 7, 8** as your teacher reads them to you. Remember the dollar sign and the point when you write a number that means money.



PLANNING FOR A PLAY

The third-grade children wanted to have a play. They needed to know how many people they could ask to see the play. Read these problems and write the answers to the questions.

1. Mr. Smith told the boys that they might use the large room, if they could find enough chairs. They counted 237 chairs in the large room and 150 in the other rooms. How many chairs were there altogether?

Write the example this way: ⟶ Begin at the right and add, just as you always do. Add the ones. Think 7, and write it in ones' place in the sum. Then add the tens. Think 8, and write it in tens' place in the sum. Now add the hundreds. Think 3, and write it in hundreds' place in the sum.

$$\begin{array}{r} 237 \\ 150 \\ \hline 387 \end{array}$$

How many chairs were there altogether?

2. They sent letters to the other grades to ask the children to come to the play. The first day 120 said they would come. The next day 102 more said they would come. How many children in all said they would come?

3. The children asked their mothers to come to the play, too. Miss Martin said, "With the teachers and the children, there will be 233 of us and 34 mothers. How many people will that make in all?"

Write the example this way: ⟶ Add just as you always do. Add the ones. What is their sum? Then add the tens. What is the sum of the tens? There are no hundreds with the 34. Write the 2 in hundreds' place in the sum.

$$\begin{array}{r}233\\34\\\hline\end{array}$$

How many people will there be at the play?

Copy the examples below and add. Add just as you always do. Check your work.

	A	B	C	D	E
4.	262 507	240 345	400 500	205 401	750 230
5.	419 70	548 21	615 84	967 21	702 96

BUYING FLAGS FOR THE PLAY

The children want to have a flag parade in the play. Read these problems, and write the answers to the questions.

1. They need 1 boy and 1 girl to carry large flags, and 5 boys and 5 girls to carry small flags in the parade. How many children do they need in the parade?

2. How many large flags and how many small ones do they need so that each child in the parade will have one?

3. At the store, one large flag costs 70¢, and another costs 85¢. What is the difference between the prices of the two flags?

4. The store has two kinds of small flags. One kind costs 35¢ and the other costs 45¢. What is the difference between the prices of the flags?

5. The children decided to buy two of the 70¢ flags. How much will they cost?

You know that seventy cents can be written either 70¢ or \$.70. When we add larger numbers that mean cents, it is better to use the dollar sign and the point.

We write the example this way: ⟶ We write the dollar sign to the left of the top number. We write the numbers so that the zero is under the zero, the 7 is under the 7, and one point is under the other.

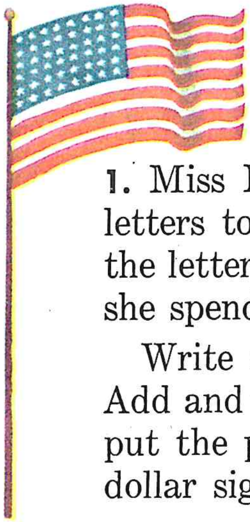
$$\begin{array}{r} \$\ .70 \\ .70 \\ \hline 1\ 40 \end{array}$$

We add just as we always do. First we write 0 in the sum. Then we add 7 and 7. We think 14 and write it in the sum. We know that the 140 means dollars and cents, and that we must have two places for cents.

We put a point in the sum between the 1 and the 40 to show that the 40 means 40 cents. We write the dollar sign to the left of the 1 to show that it means one dollar.

$$\begin{array}{r} \$\ .70 \\ .70 \\ \hline \$1.40 \end{array}$$

Now read the answer. Remember to say "and" for the point. How much will the two flags cost?



ADDING DOLLARS AND CENTS

1. Miss Martin gave the children cloth and felt letters to make a school flag. She paid $.80 for the letters and $.55 for the cloth. How much did she spend for the letters and cloth?

Write the example this way: ⟶

$$\begin{array}{r} \$\ .80 \\ .55 \\ \hline \end{array}$$

Add and write the sum. Where will you put the point? Where will you put the dollar sign? How much did she spend?

2. The children decided to buy ten small flags. They will cost $3.50, and the two large flags will cost $1.40. How much will the flags cost?

We write the example this way: ⟶

$$\begin{array}{r} \$3.50 \\ 1.40 \\ \hline \$4.90 \end{array}$$

We put the dollar sign to the left of the top number, and write the cents under the cents, the points under the points, and the dollars under the dollars.

We add just as we always do, and we get the sum 490. We know that the sum means dollars and cents, so we put a point between the figure that means dollars and those that mean cents. Then we write the dollar sign.

What is the answer to Problem **2**?

3. Copy the examples below and add.

A	B	C	D	E
$ .72	$ .80	$1.14	$4.30	$5.14
.42	.76	4.61	3.20	2.50

Remember these things when you add money:

1. Write the cents exactly under the cents, the points under the points, and the dollars under the dollars.
2. Write the point in the answer. There must be two places for cents at the right of the point.
3. Put the dollar sign to the left in the answer.
4. When you add large numbers that mean cents, use the dollar sign and the point.

Copy the examples below and add. Then check to see if you remembered all of the things about adding dollars and cents.

	A	B	C	D	E
4.	$ .60 .40 $1.00	$ .63 .94	$ .80 .58	$ .70 .30	$ .23 .95
5.	$ .83 .26 $1.09	$ .36 .83	$ .52 .56	$ .90 .50	$ .88 .40
6.	$3.65 1.23	$1.40 1.30	$2.57 1.22	$1.60 3.07	$3.00 2.00
7.	$3.42 6.53	$5.00 3.00	$3.06 4.01	$4.00 2.00	$5.72 4.04
8.	$1.20 8.70	$2.06 5.33	$2.40 2.44	$3.13 5.60	$1.51 4.02

THE COOKY SALE

The children had a cooky sale to earn money to pay for the flags. Read the problems and write the answers to the questions.

1. The children decided to make the cookies. They spent 15¢ for milk, 40¢ for sugar, 63¢ for butter, and 30¢ for flour. How much did all of these things cost?

Write the example this way: ⟶ What should you remember about the dollar sign and the points? Add the figures in the column on the right. Then add the figures in the column on the left. What is the sum? Where should you write the point and the dollar sign?

$$\begin{array}{r} \$\ .15 \\ .40 \\ .63 \\ \underline{.30} \end{array}$$

Now answer the question in the problem.

2. The children made fruit cookies, sugar cookies, and nut cookies. They put a piece of red candy on each sugar cooky. They spent 30¢ for nuts, 20¢ for fruit, and 8¢ for candy. How much did they spend in all?

We write the example this way: ⟶ When we use the point with a number that is less than ten cents, we put a 0 to the left of the number to show that it means less than ten cents.

$$\begin{array}{r} \$\ .30 \\ .20 \\ .08 \\ \hline \end{array}$$

Copy the example and add. Write the dollar sign and the point in the sum. Answer the question in the problem.

3. The children made 136 sugar cookies, 100 fruit cookies, and 120 nut cookies. How many did they make in all?

We write the example this way: ⟶ We add the ones and write the sum in ones' place. Then we add the tens and write the sum in tens' place. Then we add the hundreds and write the sum in hundreds' place. Answer the question in the problem.

$$\begin{array}{r} 136 \\ 100 \\ 120 \\ \hline \end{array}$$

4. When the children sold the cookies, they got $1.36 for the sugar cookies, $2.00 for the fruit cookies, and $2.40 for the nut cookies. How much money did they get for all of them?

ADDING THREE-PLACE NUMBERS

1. Copy this example. Be sure to write cents under cents and dollars under dollars. Keep the points in a straight column. Add, then write the point and dollar sign in the sum.

$1.42
2.05
.50

2. When you copy this example, be sure to write ones under ones and tens under tens. Then add, and write the sum. There are no hundreds to add to the 3, so we write 3 in hundreds' place in the sum.

320
7
42

Copy the examples below. Write the points and dollar signs when they are used in the examples. Keep the columns straight. Add, and write the sums. Check your work.

	A	B	C	D	E
3.	$1.42 2.43 1.14	$.69 .20 .30	$2.20 2.04 .75	103 33 352	100 126 231
4.	$ .44 2.12 1.00	$.70 .83 .66	$1.00 3.00 .69	411 51 7	300 8 50
5.	$1.10 5.01 3.47	$.90 .72 .86	60 85 71	40 309 330	800 40 8

CHECKING THE PLANS FOR THE PLAY

Miss Martin said, "We should check to see that all our plans for the play are made."

Read these problems about the plans and write the answers to the questions.

1. Tom said, "The boys have found 387 chairs, but only 267 people are coming. How many more chairs do we have than we need?"

Write the example this way: ⟶

$$\begin{array}{r} 387 \\ \underline{267} \\ 120 \end{array}$$

Subtract the ones. Think, 7 from 7 is zero. Write the 0 in ones' place in the remainder.

Then subtract the tens. Think, 6 from 8 is 2. Write the 2 in tens' place in the remainder.

Then subtract the hundreds. Think, 2 from 3 is 1. Write the 1 in hundreds' place in the remainder.

What is the answer to Tom's question?

2. Miss Martin said, "There are 237 chairs in the large room, and 267 people are coming to the play. How many more chairs do we need in the large room?"

Write the example. Subtract 7 from 7. Write 0 in ones' place. Then subtract 3 from 6. Write 3 in tens' place. Now subtract 2 from 2. In this example we need not write the 0 in hundreds' place because there are no more figures to subtract. What is the answer to the question in the problem?

$$\begin{array}{r} 267 \\ \underline{237} \\ 30 \end{array}$$

3. Jane said, "We sold the cookies for $5.76. We spent $2.06 for the things to make them. How much money did we have left?"

Write the example and subtract, just as you always do. Subtract 6 from 6. There is nothing to subtract from 7. What will you write in the remainder? Then subtract 2 from 5. Write the dollar sign and the point in the remainder. How much money did they have left?

$$\begin{array}{r} \$5.76 \\ \underline{2.06} \end{array}$$

4. James said, "The flags cost $4.90, and we now have $3.70. How much more money do we need?"

5. The next day John brought 44 cookies, Judy brought 30, Susan brought 50, and Billy brought 32. How many cookies did they bring altogether?

6. The children needed $1.20. They sold the cookies for $1.56. How much more money did they make than they needed?

SUBTRACTING THREE-PLACE NUMBERS

Fold a paper under the examples in Rows **1** and **2.** Subtract, and write the remainders.

	A	B	C	D	E
1.	633 320	762 712	$7.75 5.20	$8.50 6.50	$9.24 5.04
2.	$2.94 2.31	917 700	$9.68 8.34	993 903	$8.06 2.02

Copy the examples in Rows **3, 4,** and **5.** Be sure to put in the dollar sign and the points when they are in the examples. They show that the numbers mean dollars and cents.

Subtract, and write the remainders.

3.	$4.58 2.30 $6.88	466 125	$9.67 4.02 $13.69	$1.99 1.40 $3.39	$3.87 3.51 $7.38
4.	$3.79 .46 64.45	498 34	$2.67 1.43 $4.10	$3.89 1.32 $5.21	198 52
5.	$8.95 5.14 $14.09	792 480	$9.47 9.06 $18.53	$8.85 3.81 $12.66	487 415

Check your answers to see if you remembered to put the dollar signs and the points where they are needed.

A TRIP IN THE CAR

John and his father took a three-day trip in their car. They kept notes about the trip. When the trip was over, they found out how far they had traveled and how much the trip had cost.

Read these problems about the trip, and decide what you should do to answer the questions. Then use the numbers from the problems to find the answers.

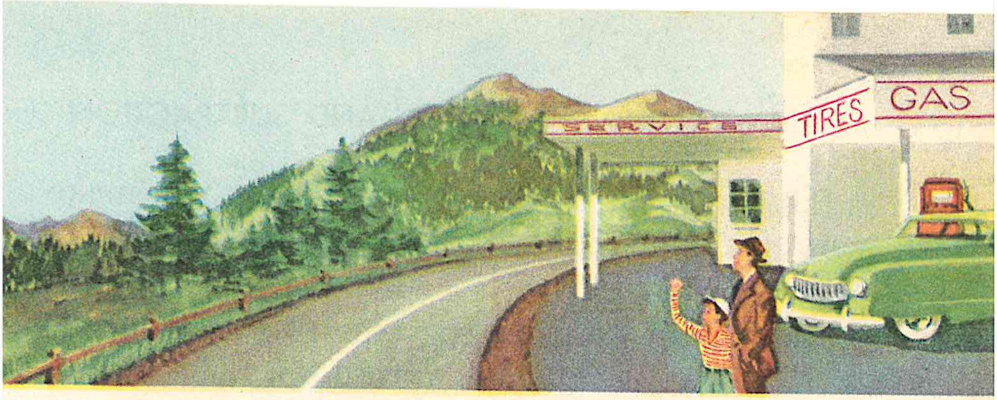
1. They drove 204 miles the first day, 261 miles the second day, and 224 miles the third day. How far did they drive altogether?

2. John's mother said, "You went almost 700 miles on this trip. That is about 200 miles farther than you went on your trip last year."

About how far did they go last year?

3. John said. "I know how many gallons of gasoline we bought on the trip. The first day we bought 10 gallons. We bought 15 gallons the second day, and 12 gallons the third day."

How many gallons did they buy in all?



4. Father asked, "How much money did we spend for gasoline each day?"

John said, "We spent $2.70, $4.05, and $3.24."

How much did they spend altogether for gasoline?

5. John said, "We had to pay for places to sleep two nights. We spent $4.50 one night and $5.00 the next night."

How much did they spend for places to sleep?

6. Father said, "I know how much we spent for food each day. The first day we had a picnic lunch and dinner at Grandmother's. So we spent only $1.75. The second day we spent $6.00. The third day we had lunch at Uncle Fred's and dinner at home. We spent $2.10 that day."

How much did the food cost in all?

7. John said, "I spent $1.00 for sun glasses, $2.10 for a present for Mother, and $.12 for cards and stamps."

How much did John pay for all those things?

8. John said, "I had $3.75 of my own money when we left. Now I have $.53."

How much of his own money did John spend?

MAKING SURE OF ADDITION AND SUBTRACTION

The examples on this page will help you make sure of addition and subtraction with large numbers and money.

Fold a paper under the examples and add or subtract as the signs tell you to do. Check your work. If you miss any examples, turn to the pages given at the ends of the rows. Learn to do those you miss.

	A	B	C	D	E	
1.	523 +370	907 +82	$4.60 +3.00	$4.40 +5.17	753 +26	207 210
2.	205 130 540	650 6 42	$6.03 3.21 .64	$3.01 1.47 5.01	$.42 .25 .50	213 214
3.	865 −323	897 −846	$7.75 −3.70	$4.92 −4.30	$8.97 −.52	215 216

THINK AND ANSWER

1. Mary had 14 pennies. Tom gave her a dime for 10 of her pennies. How many dimes and how many pennies did Mary have then?

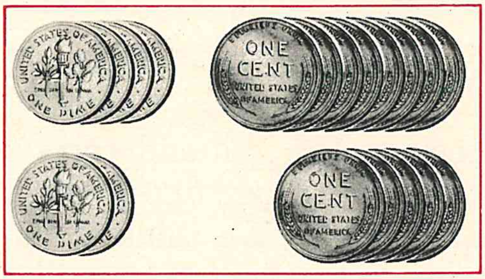
2. Billy had 4 dimes and 17 pennies. He gave 10 pennies to Alan for a dime. Then how many dimes and pennies did Billy have?

MORE ADDING WITH DIMES AND CENTS

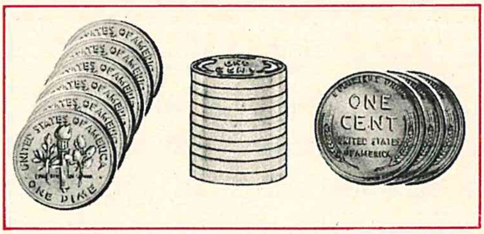
Tom counted his money. He had 48¢ in his bank and 25¢ in his pocket. How much money did he have altogether?

48¢ is the same as

25¢ is the same as



4 dimes	8 cents
2 dimes	5 cents
6 dimes	13 cents



We write the example this way: ⟶ First we add the 8 cents and the 5 cents, and think 13 cents. We know that 13 cents equal 1 dime and 3 cents. We write the 3 in the sum and add the 1 with the rest of the dimes. We think, 1 and 4 are 5, and 2 are 7. We write the 7 in the sum under the dimes. Is 73¢ the same as 6 dimes and 13 cents?

$$\begin{array}{r} 48¢ \\ \underline{25¢} \\ 73¢ \end{array}$$

Copy the example without the sum. Then close your book and add. Remember to write the cent sign to the right of your answer.

How much money did Tom have altogether?

CARRYING WHEN WE ADD

1. In this example, you know that the 27¢ is the same as 2 dimes and 7 cents. The 48¢ is the same as 4 dimes and 8 cents.

$$\begin{array}{r} 27¢ \\ \underline{48¢} \\ 75¢ \end{array}$$

We add the 7 and 8 and think 15. The 15 means the same as 1 dime and 5 cents. We write the 5 in the sum and **carry** the 1 to add with the dimes. We add the 1 and 2. We think 3, and add the 4. We think 7, and write the 7 in the sum. Then we put a cent sign to the right of the sum to show that it means 75¢.

2. Copy this example. Add the ones. Think, 7 and 9 are 16. You know that the 16 means 1 ten and 6 ones. Write the 6 in ones' place in the sum and carry the 1 ten to add with the other tens. Think, 1 and 5 are 6, and 3 are 9. Write the 9 in tens' place in the sum.

$$\begin{array}{r} 57 \\ \underline{39} \\ 96 \end{array}$$

Copy the examples below and add.

	A	B	C	D	E	F	G	H
3.	14 79	56 26	29 24	58 18	49 36	78 19	45 47	38 36
4.	65 29	26 48	37 56	65 16	18 64	56 39	37 47	26 55

MORE ABOUT CARRYING

1. Copy this example. Add the ones. Think, 9 and 7 are 16. Write the 6 in ones' place in the sum. Carry the 1 ten and add it with the other tens. Think, 1 and 5 are 6, and 8 are 14. Write the 14 in the sum with the 4 in tens' place and the 1 in hundreds' place. Read the sum.

$$\begin{array}{r} 59 \\ \underline{87} \\ 146 \end{array}$$

2. Copy the example without its sum. Close your book and add. If you need help, study the example in the book again.

Copy the examples below and add. When the sum of the ones is ten or more, remember to carry the ten and add it with the other tens.

	A	B	C	D	E	F	G	H
3.	69 52	37 76	26 95	84 88	27 87	69 99	66 77	45 68
4.	78 34	86 98	17 94	79 73	66 69	86 56	72 89	44 98
5.	88 37	29 97	38 75	27 88	78 39	69 76	65 47	44 89
6.	87 55	87 69	58 98	78 96	49 68	89 72	79 54	66 85

1. Copy this example. Add the ones. Think, 6 and 4 are 10, and 4 are 14. Write the 4 in ones' place and carry the 1.

Add the tens. Remember that you carried 1, and add it to the 5. Think 6, 12, 20. Write the 0 in tens' place and the 2 in hundreds' place in the sum. Read the sum.

$$\begin{array}{r}56\\64\\84\\\hline 204\end{array}$$

2. Copy this example. Add the ones. Think, 1 and 6 are 7, and 3 are 10. Write the 0 in ones' place in the sum, and carry the 1.

Remember that you carried 1, and add it with the tens. Think 4, 13, 21. Write the 21 in the sum. Read the sum.

$$\begin{array}{r}31\\96\\83\\\hline 210\end{array}$$

Copy the examples below and add.

	A	B	C	D	E	F	G	H
3.	75 63 92	43 84 53	81 95 74	49 57 51	81 67 82	88 47 74	62 30 98	50 77 94
4.	75 68 64	54 90 59	76 95 67	69 23 15	67 56 95	75 37 94	83 87 78	81 70 49

CARRYING WHEN WE ADD LARGE NUMBERS

1. Copy this example and add. Add 7 and 3. Think 10. Write the 0 in ones' place in the sum. Carry the 1 and add it with the other tens. Write the 7 in tens' place in the sum. Then add the hundreds.

$$\begin{array}{r}437\\533\\\hline 70\end{array}$$

2. When we add money, we carry just as we always do. But we write the dollar sign and the point to show that the number means money.

Copy this example. Add 7 and 9. Think 16, and add 3. Think 19. Write the 9 in the sum and carry the 1. Think 1 and 6 are 7 and 2 are 9. Write the 9 in the sum.

$$\begin{array}{r}\$6.07\\3.69\\.23\\\hline 99\end{array}$$

Add the dollars. Write the dollar sign and the point in the sum which you have written.

Copy the examples below. Add and check.

	A	B	C	D	E	F
3.	428 255	$5.31 2.49	346 308	454 26	$2.79 5.02	$6.27 .33
4.	339 325 304	327 408 63	$5.07 .89 4.02	46 224 417	$2.35 3.49 1.13	$5.18 .72 3.06
5.	658 214 103	$3.36 2.06 4.22	$3.15 2.05 .64	$ .52 3.08 6.13	504 57 217	324 46 418

BUYING GROCERIES

Billy and Father bought the groceries for Mother. These problems tell what they bought and how much money they spent.

Read each problem and decide how to find the answer to the question. When you write the numbers, be sure to use the dollar sign and the point.

1. First, Billy and Father bought a dozen oranges for 47¢, some apples for 35¢, and some grapefruit for 23¢. How much did they spend for fruit?

2. Then they bought some vegetables. They spent 38¢ for beans, 40¢ for potatoes, 12¢ for onions, and 36¢ for tomatoes. How much did they spend for vegetables?

3. Next they bought some meat for $1.10. Father gave the grocer $1.25. How much change did he receive?

4. They spent 40¢ for milk, 36¢ for butter, 14¢ for cheese, and 31¢ for cream. How much did they spend for these things altogether?

5. They paid 19¢ for salt, $1.10 for shortening, and $2.07 for a canned chicken. How much did these things cost in all?

6. When they got home, Father asked Billy to find how much they had spent at the store. Billy added $1.05, $1.26, $1.21, and $3.36. How much money was that altogether?

7. Billy said, "I got $6.88 when I added. Is that how much we spent?"

Father said, "We spent $7.98."

How much more had they spent than Billy figured?

8. Father looked at Billy's figures. He said, "You forgot the $1.10 we spent for meat. Add that to the sum you got before."

What did Billy get when he added $1.10 to $6.88?

THINK AND ANSWER

1. Judy had 24 pennies. Father gave her 2 dimes for 20 of her pennies. How many dimes and pennies did she have then?

2. John had 4 dimes in his dime bank and 32 pennies in a box. He gave 30 of the pennies for 3 dimes to put in his bank. How many dimes and pennies did he have then?

CARRYING MORE THAN ONE TEN

Say the numbers that should go in the blanks.

1. 19 means the same as _?_ ten and _?_ ones.

2. 36 means the same as _?_ tens and _?_ ones.

3. 20 means the same as _?_ tens and _?_ ones.

4. Sometimes we must carry more than one ten. This is the way we do it: We add the ones. We think, 7 and 5 are 12, and 8 are 20. We know that 20 means 2 tens and no ones. So we write the 0 in ones' place in the sum and carry the 2.

$$\begin{array}{r} 437 \\ 225 \\ 118 \\ \hline 780 \end{array}$$

We add the 2 with the tens. We think, 2 and 3 are 5, and 2 are 7, and 1 are 8. We write the 8 in tens' place in the sum.

Then we add the hundreds. We think, 4 and 2 are 6, and 1 are 7. We write the 7 in hundreds' place in the sum. Read the sum.

Copy the example without the sum. Then close your book and add. Check your work.

5. Copy this example and add the ones. Think, 9 and 8 are 17, and 6 are 23, and 9 are 32. We know that 32 means 3 tens and 2 ones. So we write the 2 in the sum and carry the 3 to add with the other tens. Add the tens. Read the sum.

$$\begin{array}{r} 19 \\ 38 \\ 16 \\ 19 \\ \hline 2 \end{array}$$

PRACTICING ADDITION WITH CARRYING

1. Tom paid $4.06 for shoes, $2.09 for a shirt, and $1.09 for a belt. How much did he spend?

Copy the example and add. First think, 6 and 9 are 15, and 9 are 24. Write the 4 in the sum, and carry the 2.

$$\begin{array}{r} \$4.06 \\ 2.09 \\ 1.09 \\ \hline 24 \end{array}$$

In the next column the zeros show that there is nothing to add. Remember the 2 you carried, and write it in the sum. Now add the dollars. Write the dollar sign and the point in the sum. How many places must you have for cents?

Copy the examples below and add. Sometimes there will be one ten to carry and sometimes more than one. Work carefully. Check your work.

	A	B	C	D	E	F
2.	38 19 68	146 307 238	343 409 46	$3.24 1.58 1.08	$3.08 .08 6.07	$ .23 3.38 3.13
3.	207 408 209	22 458 304	509 208 109	$1.19 4.11 4.52	348 507 26	$4.29 2.18 3.44
4.	22 19 25 36	19 25 88 18	$.67 .69 .79 .98	$.19 .76 .71 .58	$.15 .05 .39 .27	43 26 9 11

LEARNING TO SOLVE PROBLEMS

Sometimes an arithmetic problem tells a story. We find the end of the story by answering the question that is asked. We must know what the story is about before we can decide how to end it.

Think what the story is about and what the question asks as you read each of these problems. Then use the numbers from the problems and find the answers to the questions.

1. Susan took a train trip to visit her aunt and her grandmother. She traveled 485 miles to her aunt's home and 205 miles farther to her grandmother's. How far did she ride altogether?

2. Susan's lunch on the train cost $1.20. Her dinner cost $1.85. How much more did she pay for dinner than for lunch?

3. When Susan got on the train she had $9.95. She spent $3.05 for food. How much did she have left?

4. Grandmother took Susan shopping for presents. Susan paid $1.29 for a boat for her brother, $1.41 for gloves for Mother, and $1.15 for a tie for Father. How much did she spend in all?

5. When Susan started home she had $3.05 of her own money. Grandfather gave her $1.00 and Grandmother gave her 75¢. How much money did Susan have then?

6. After Susan had eaten lunch and dinner on the way home, she counted her money. She had 1 one-dollar bill, 1 half-dollar, 1 quarter, and 1 nickel. How much money did she have?

THINK AND ANSWER

1. Billy had a dime and 8 pennies. Mother gave him pennies for the dime. How many pennies did Mother give to Billy? How many pennies did he have altogether?

2. Jane had a dime and 4 pennies. Father gave her ten pennies for her dime. How many pennies did she have then?

Jane bought a puzzle with 9 of her pennies. How many pennies did she have left?

MAKING SURE OF CARRYING

The examples on this page will help you make sure of carrying in addition. Write the sums for the examples in Rows **1, 2, 3,** and **4** on folded paper.

	A	B	C	D	E	
1.	73¢ 19¢	68 29	55 69	87 43	47 77	**222** **223**
2.	96 98 33	70 81 69	46 97 63	28 85 71	10 92 88	**224**
3.	629 165	$4.65 2.15	278 702	415 566	$5.39 3.32	**225**
4.	234 347 214	$5.27 1.08 3.53	613 327 55	$2.08 .84 5.04	$ .24 3.49 3.02	**225**

Copy the examples in Row **5** and add.

5.	308 208 105	$.19 .06 .38 .88	$4.28 3.16 2.38	19 29 6 26	$ .09 .97 .93 .68	**228** **229**

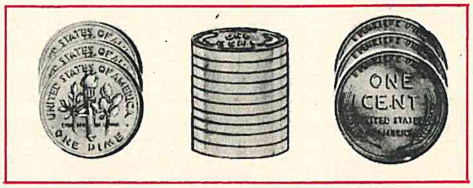
Check your work. If you miss any examples, turn to the pages given at the ends of the rows. Learn how to do the examples you miss.

SUBTRACTING DIMES AND PENNIES

1. Judy had 43¢. She bought a doll's hat from Susan for 19¢. How much money did she have left?

Judy had 4 dimes and 3 pennies.

Before Judy could give Susan exactly 19¢, she had to get change for a dime.



Father gave Judy 10 pennies for one dime.

Then Judy had ⟶ 3 dimes and 13 pennies.
She gave Susan ⟶ 1 dime and 9 pennies.
Then Judy had ⟶ 2 dimes and 4 pennies.

How much money did Judy have left?

2. John had 32¢. He bought a knife from Tom for 18¢. How much money did John have left?

32¢ is the same as 3 dimes and 2 cents.
18¢ is the same as 1 dime and 8 cents.

32¢
18¢

We cannot subtract 8¢ from 2¢. So we use one of the dimes. A dime is 10¢.

32¢ is the same as 2 dimes and 12 cents.
18¢ is the same as 1 dime and 8 cents.
14¢ 1 dime and 4 cents

How much money did John have left?

BORROWING WHEN WE SUBTRACT

We cannot take 8 from 4 because 8 is larger than 4. We know that 54¢ means the same as 5 dimes and 4 cents. So we take one of the 5 dimes and put it with the 4 cents. We know that 1 dime is the same as 10 cents. So we think 14¢ when we put the 10 with the 4.

$$\begin{array}{r} 54\text{¢} \\ 28\text{¢} \\ \hline 6 \end{array}$$

Now we can subtract. We think, 8 from 14 leaves 6. We write the 6 in the remainder.

Then we subtract the figures that mean the same as dimes. We remember that we took one of the 5 dimes. There are only 4 left. We think, 2 from 4 leaves 2, and write the 2 in the remainder. Then we put the cent sign to the right of the remainder.

$$\begin{array}{r} 54\text{¢} \\ 28\text{¢} \\ \hline 26\text{¢} \end{array}$$

We **borrowed** when we took 1 of the dimes and put it with the cents so that we could subtract.

Copy the examples below and subtract. If you need help, look at the example above.

	A	B	C	D	E	F
1.	92¢ 57¢	64¢ 38¢	53¢ 29¢	71¢ 33¢	83¢ 35¢	95¢ 47¢
2.	94¢ 66¢	75¢ 48¢	78¢ 29¢	82¢ 48¢	91¢ 39¢	81¢ 54¢

1. John has 72 marbles and Tom has 24. How many fewer marbles does Tom have?

We subtract this way: Since 2 is smaller than 4, we have to borrow from the 7. So we use one of the 7 tens. We put the ten with the 2, making 12. We think, 4 from 12 is 8. We write 8 in ones' place in the remainder.

$$\begin{array}{r} 72 \\ \underline{24} \\ 48 \end{array}$$

Then we subtract the tens. We remember that we used one of the 7 tens, so we have only 6 tens. We think, 2 from 6 is 4. We write the 4 in tens' place in the remainder.

How many fewer marbles does Tom have?

Copy the examples below and subtract. Remember that after you borrow, the number of tens is one less.

	A	B	C	D	E	F	G	H
2.	61 47 14	83 27 56	86 67 19	95 79 16	74 15 59	95 16 79	92 35 57	57 19 38
3.	92 59	92 26	64 27	87 18	93 76	92 44	91 22	83 54
4.	91 65	83 48	82 33	86 28	76 49	71 26	74 39	71 58

DECIDING WHEN TO BORROW

1. Look at the figures in the example at the right. Is the 3 in the top number larger, or smaller, than the 8 you want to subtract from it? Will you have to borrow to subtract?

73¢
28¢

Copy the example and subtract.

2. Look at the figures in the example at the right. Is the 7 larger, or smaller, than the 4 you want to subtract from it? Will you have to borrow to subtract?

67¢
24¢

Copy the example and subtract. Be sure to put the cent sign in the remainder.

Sometimes we have to borrow in subtraction examples and sometimes we do not. We must borrow when the top figure is smaller than the figure under it.

Tell in which of the examples below you must borrow. Then copy the examples and subtract.

	A	B	C	D	E	F	G
3.	85 67	92 47	89¢ 63¢	63 15	93¢ 51¢	79 32	65¢ 46¢
4.	74¢ 37¢	98 59	49 36	93¢ 42¢	94 39	82¢ 45¢	49¢ 37¢
5.	83 26	76¢ 49¢	71 25	89 21	93¢ 47¢	69 18	84¢ 58¢

BORROWING WITH LARGE NUMBERS

1. We borrow when we subtract large numbers just as we do when we subtract small numbers.

Look at the example at the right. We cannot subtract 6 from 1 because 1 is smaller than 6. So we use one of the 8 tens. We put the 10 with the 1 and think, 6 from 11 is 5. We write the 5 in ones' place in the remainder.

$$\begin{array}{r}181\\ \underline{96}\\ 85\end{array}$$

Then we subtract the tens. We used one of the 8 tens, so there are now only 7. We think, 9 from 17 is 8. We write the 8 in tens' place.

Copy the example without its remainder. Then close your book and subtract. Study the example again if you need help.

2. Copy this example and subtract. Will you have to borrow when you subtract the ones? What should you remember about the 7 when you subtract the tens? Subtract the hundreds just as you always do.

$$\begin{array}{r}972\\ \underline{349}\end{array}$$

Copy the examples below and subtract.

	A	B	C	D	E	F
3.	147 99	124 75	149 65	162 84	126 37	166 98
4.	962 413	952 746	581 378	798 186	971 552	992 188

BORROWING IN EXAMPLES WITH ZEROS

When we subtract from a number with zero in ones' place, we remember that the zero shows there are no ones in that place.

1. In this example, we use one of the 5 tens. Now we have 10 ones. We think, 8 from 10 is 2. We write the 2 in ones' place in the remainder. Then we subtract the tens and hundreds.

$$\begin{array}{r} 950 \\ 128 \\ \hline 2 \end{array}$$

2. In this example, we use the 1 ten. Now we have 16 ones. We think, 9 from 16 is 7. We write the 7 in ones' place.

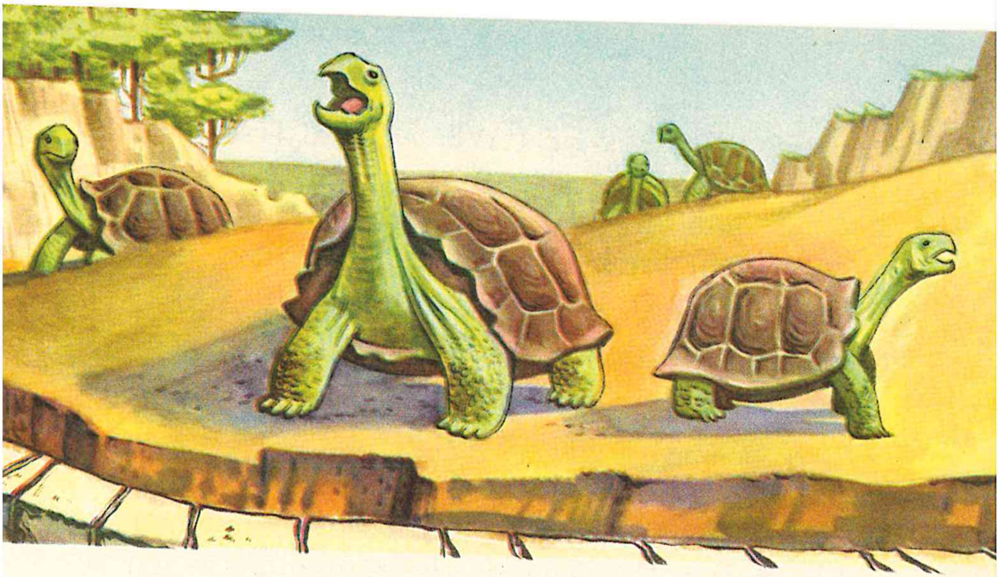
$$\begin{array}{r} 916 \\ 709 \\ \hline 07 \end{array}$$

Since we used the 1 ten, there are no tens left. There is nothing in that place to subtract. We write 0 in the remainder. Then we subtract the hundreds and write the remainder.

Copy the examples above, then close your book and subtract. Study the examples again if you need help.

Copy the examples below and subtract.

	A	B	C	D	E	F
3.	980 838	860 634	990 257	790 425	970 453	790 336
4.	911 307	510 202	815 415	711 504	713 208	510 209



ANIMALS IN THE ZOO

Alan and John went to the zoo. The keeper told them about the animals. Read these problems and write the answers to the questions.

1. One large turtle in the zoo is 112 years old. Another turtle is 27 years old. What is the difference between their ages?

2. The keeper said, "The big elephant is 50 years old and the smaller one is 35 years old."

How much older is the big elephant?

3. The white bear weighs 614 pounds and the black bear weighs 308 pounds. How much less does the black bear weigh?

4. How much do the two bears weigh altogether?

5. One seal weighs 987 pounds. Another seal weighs 578 pounds. How much more does the larger seal weigh?

BORROWING WHEN WE SUBTRACT MONEY

1. Mary had $9.84 in her bank. She spent $4.36 for a present for her mother. How much did she have left?

To find the answer, copy the example and subtract. As the 4 is smaller than the 6, we have to borrow from the 8. From what do we subtract the 6?

$9.84
4.36

What do we remember about the 8 when we subtract the 3? What is the remainder when we subtract the figures that mean dollars? Remember to write the dollar sign and the point.

How much money did Mary have left?

Copy the examples below and subtract, just as you always do. If you need help, turn to the pages given at the ends of the rows.

	A	B	C	D	
2.	$1.24 .85	$1.54 .79	$1.62 .84	$1.32 .92	**237**
3.	$9.91 5.36	$9.56 7.07	$9.69 4.62	$6.93 2.48	**237**
4.	$8.70 7.57	$9.80 5.21	$5.30 4.00	$9.40 1.34	**238**
5.	$9.10 6.03	$6.10 3.06	$7.10 3.08	$5.17 3.00	**238**

CHECKING SUBTRACTION BY ADDING

1. Jane had $2.65. She spent $1.39 for a doll. How much money did she have left?

We subtract to find the answer. To check our answer, we do not have to write the example again. We add the $1.26 that Jane had left to the $1.39 that she spent. The sum is the same as the money Jane had before she bought the doll, so we know that our answer is correct.

$$\begin{array}{r} \$2.65 \\ 1.39 \\ \hline \$1.26 \\ \hline \$2.65 \end{array}$$

2. Copy this example with its remainder, then check to see if the answer is correct. First, draw a line under the remainder. Then add the remainder to the bottom number in the example. Is your sum the same as the top number in the example? Is the answer correct?

$$\begin{array}{r} 983 \\ 527 \\ \hline 456 \end{array}$$

Copy the examples below. Subtract, and check by adding. If you make a mistake, subtract again.

	A	B	C	D	E	F
3.	613 509	$5.91 2.56	126 87	$9.10 8.02	184 97	$6.79 1.71
4.	976 649	$8.86 4.38	970 409	$7.10 5.01	161 72	$1.33 .84

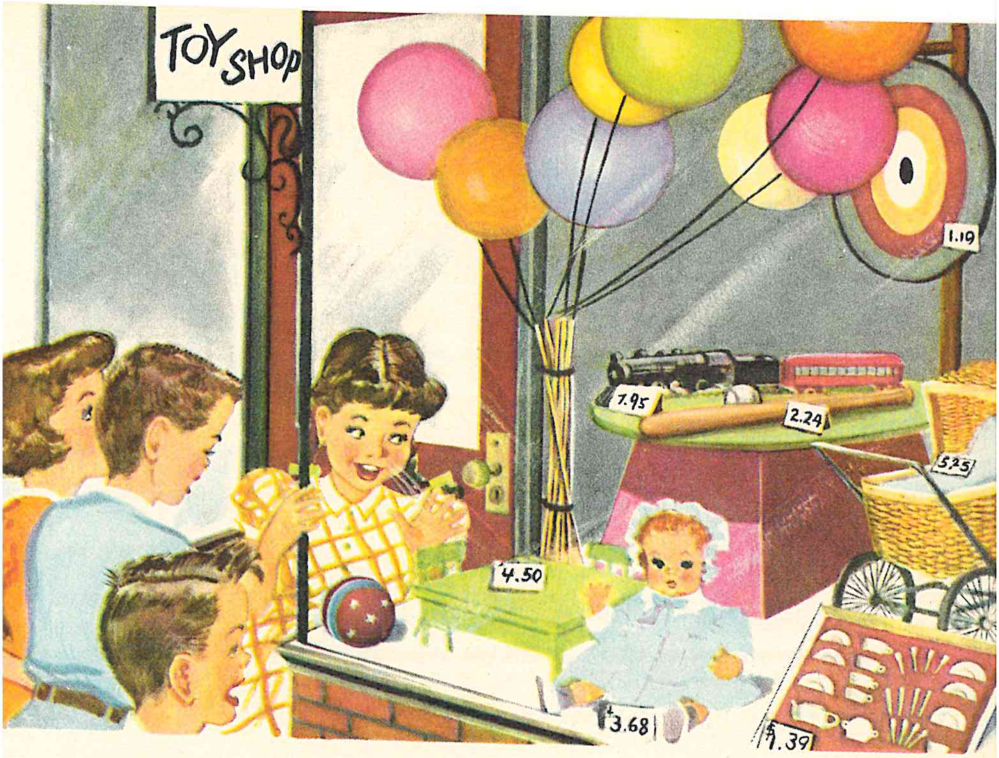
PRACTICING WHAT YOU HAVE LEARNED

The examples on this page will be easy for you if you remember these things:

1. Borrow when the figure in the top number is smaller than the figure under it.
2. When you borrow in these examples, you borrow 1 ten.
3. If you borrow, the top figure in tens' place is now one less than it was, because you took one from it.

Write on folded paper the remainders for the examples in Rows **1** through **3**. Copy the examples in Rows **4** and **5**. Subtract and check.

	A	B	C	D	E	F
1.	94 26	948 724	90¢ 73¢	168 89	$1.41 .87	715 306
2.	$5.81 3.24	713 606	142 89	$9.10 4.07	172 93	$9.98 2.91
3.	90 64	$9.11 5.03	113 27	$4.98 1.30	91¢ 19¢	$1.37 .48
4.	$1.53 .84	82¢ 56¢	812 307	$7.74 1.25	$6.60 4.55	135 89
5.	90¢ 68¢	$1.53 .95	$7.30 5.06	772 465	178 98	$6.11 3.05



LOOKING AT TOYS IN THE WINDOW

The boys and girls are choosing the toys they would like to buy. Read the problems and decide what you should do to find the answers to the questions. Solve the problems.

1. Judy said, "The doll costs $3.68 and the carriage costs $5.25. I wish I could buy them."

How much do both cost?

2. Susan said, "The table and chairs are $4.50. I'll save my money so that I can buy them. I have $1.09 in my bank now."

How much more money does Susan need to buy the table and chairs?

3. The dart game is $1.19, and the ball and bat are $2.24. The dart game is how much less than the ball and bat?

4. Billy said, "This train is $7.95. The one I have was only $5.50. What is the difference between the prices of the trains?"

5. Susan said, "I need the dishes to set the table. The table and chairs cost $4.50 and the dishes cost $1.39. How much do they cost altogether?"

6. James said, "I'd like to have the tent. It costs $6.48. I have $9.50 in my dime bank. How much money will I have left if I buy the tent?"

Read your answers. Are they sensible?

Would 245 be a sensible answer for the fourth problem? Why?

Would $3.11 be a sensible answer for the fifth problem? Why?

THINK AND ANSWER

1. Mother said, "Tom, I need some change. Please give me dimes out of your bank for this one-dollar bill."

Tom had 14 dimes. How many did he give Mother? How many did he have left?

2. Jane has 17 dimes. That is the same as how many dollars and how many dimes?

3. How many dimes equal 1 dollar? 2 dollars?

MAKING SURE OF SUBTRACTION WITH BORROWING

Copy these examples and subtract. Check your work by adding. If you miss any of the examples with borrowing, turn to the pages given at the ends of the rows. Learn to do those you miss.

	A	B	C	D	E	
1.	62 23	93¢ 65¢	96 25	85¢ 27¢	91 46	**234** **235**
2.	131 95	$1.72 .88	123 87	109 29	$1.86 .97	**237** **240**
3.	981 179	685 148	$7.71 6.07	$9.74 4.67	$9.98 8.95	**237** **240**
4.	830 230	770 141	950 327	$8.80 7.25	$9.90 7.36	**238** **240**
5.	618 209	313 108	$6.18 3.00	$5.12 3.06	$7.15 3.06	**238** **240**

KEEPING IN PRACTICE

1. $3.27 + $4.07 + $.47 = ?

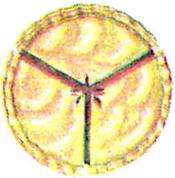
2. $.07 + $.49 + $.37 + $.29 = ?

3. 16 + 59 + 14 + 6 = ?

4. 408 + 559 + 16 = ?

DIVIDING THINGS INTO THREE EQUAL PARTS

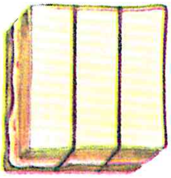
1. Alan, Billy, and John had lunch together in the school lunchroom. They divided part of their lunch. Alan had a small pie. He cut it into three equal pieces.



▶ Each of the three equal pieces is called **one-third.**

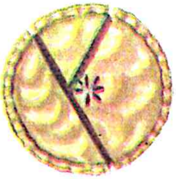
Each boy had one-third of the pie.

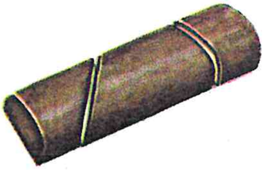
2. Billy cut his candy bar into thirds. What part of the candy bar did each boy have? How many thirds did the whole candy bar make?

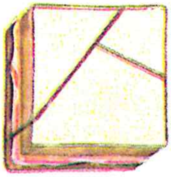


3. John cut his sandwich so that each of the three boys could have an equal part. Into how many pieces did he cut it? What was each piece called?

4. Would each boy have a third of the candy bar, the pie, and the sandwich if they had been cut this way?



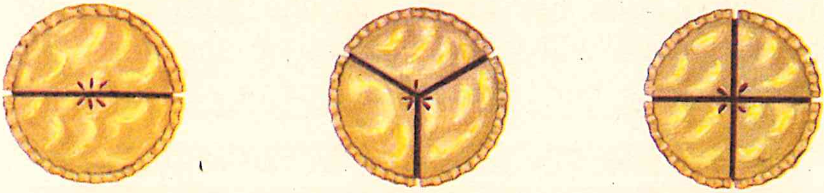




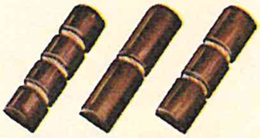
5. What do we call each of the three equal pieces of a whole thing?

6. How many thirds are there in a whole thing?

7. Look at these pictures of pies. Tell which pie is cut into thirds; into fourths; into halves.

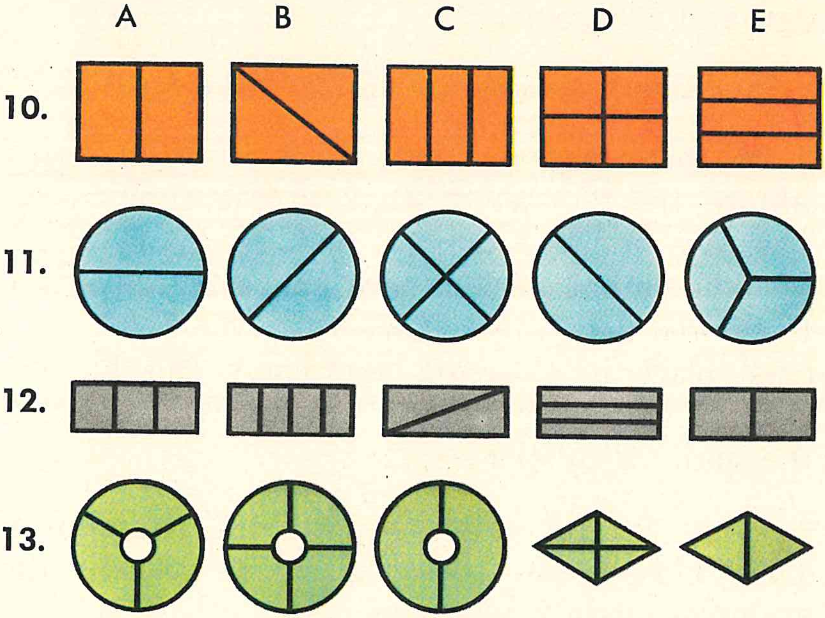


8. Look at the candy bars. Tell which is cut into fourths; into halves; into thirds.



9. How many equal pieces are there when a whole is cut into halves? into thirds? into fourths?

In the pictures below, which figures are divided into halves? into fourths? into thirds?



LEARNING TO CARRY HUNDREDS

1. Helen adds her money as she puts it in her bank, so she will know how much she has. She had \$3.56 in her bank. She put in 72¢ more.

Notice how 72¢ is written in the example.

$$\begin{array}{r} \$3.56 \\ .72 \\ \hline \$4.28 \end{array}$$

Helen added this way: She thought, 6 and 2 are 8. She wrote the 8 in the sum.

Then Helen thought, 5 and 7 are 12. The 12 means 12 dimes, which is the same as 1 dollar and 2 dimes. She wrote the 2 in the sum and carried the 1 dollar to add with the 3 dollars. She thought, 1 and 3 are 4. She wrote the 4 in the sum and put in the dollar sign and the point.

How much money does Helen have now?

$$\begin{array}{r} 482 \\ 370 \\ \hline 852 \end{array}$$

2. In this example, there is nothing to add to the 2. We write 2 in the sum. Then we add the tens: 8 and 7 are 15. We know that 15 tens are the same as 1 hundred and 5 tens. We write the 5 in tens' place in the sum and carry the 1. We think, 1 and 4 are 5, and 3 are 8. We write 8 in the sum. Read the sum.

3. Copy the two examples without their sums. Then close your book and add. Study the examples again if you need help.

CARRYING HUNDREDS

We carry hundreds in the same way that we carry tens. But we remember that 10 tens equal 1 hundred.

Write the sums for these examples on folded paper. Carry when you need to. Then add the figure you carried to the first figure in the next column. Check each example before you work the next one.

	A	B	C	D	E	F
1.	152 775	430 473	$2.52 5.90	410 484	$1.90 4.40	845 71
2.	$7.53 1.60	364 390	$2.59 6.17	$1.50 7.88	480 295	$2.70 6.60
3.	280 348 210	$3.53 2.02 2.15	$6.60 2.51 .67	470 72 436	$ .45 3.60 5.81	540 99 230
4.	$2.60 6.45 .60	90 656 242	400 60 534	$2.10 2.38 5.43	81 460 336	$4.10 .90 3.69

5. Copy the examples below. Add and check.

A. 90 + 550 + 346

B. $6.40 + $.40 + $3.10

C. 327 + 513 + 38

D. $3.08 + $4.17 + $.43

E. $1.90 + $.97 + $4.10

F. $.90 + $2.63 + $6.44

CARRYING MORE THAN ONE HUNDRED

Say the numbers that belong in the blanks.

1. 290 means _?_ hundreds, _?_ tens, and _?_ ones.
2. 146 means _?_ hundred, _?_ tens, and _?_ ones.
3. 207 means _?_ hundreds, _?_ tens, and _?_ ones.

4. In this example, we carry more than one hundred. The sum of the figures in ones' column is 7. We write it in ones' place. Then we add the tens.

$$\begin{array}{r} 493 \\ 70 \\ 284 \\ \hline 847 \end{array}$$

We think, 9 and 7 are 16, and 8 are 24. The 24 means 2 hundreds and 4 tens. So we write the 4 in tens' place in the sum and carry the 2 to add with the hundreds. Then we think, 2 and 4 are 6, and 2 are 8. We write the 8 in hundreds' place.

Copy the example without its sum. Then close your book and add. Study the example again if you need help.

Copy the examples below. Add and check.

	A	B	C	D	E	F
5.	480 249 90	294 72 290	181 60 275	493 185 231	690 98 120	764 80 94
6.	208 59 724	380 180 187	\$1.85 2.70 2.80	490 246 90	\$2.90 3.90 1.83	390 82 396

BORROWING FROM HUNDREDS' PLACE

1. Miss Martin had 423 cards. She used 50 of them. How many cards did she have left?

Tom wrote the example and subtracted. He wrote 3 in ones' place in the remainder. He said, "I cannot take 5 from 2. I'll use one of the hundreds. It is 10 tens; 10 tens and 2 tens are 12 tens. Now I can subtract: 5 from 12 is 7.

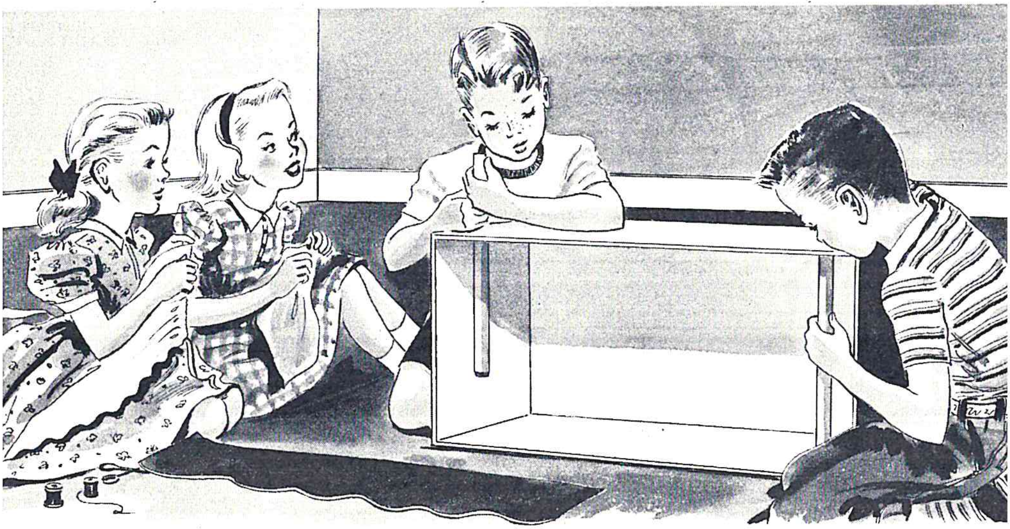
$$\begin{array}{r}423\\ 50\\ \hline 373\end{array}$$

"There are only 3 hundreds left. There is nothing to subtract from the 3. Miss Martin had 373 cards left."

▶ We borrow from hundreds' place in the same way that we borrow from tens' place. But we remember that the 1 we borrow means 10 tens.

Copy the examples below and subtract. Example A in each row is worked to show you how to do them.

	A	B	C	D	E	F
2.	$9.67 3.94 $5.73	987 792	$7.29 5.43	420 90	$8.33 4.93	746 260
3.	904 670 234	705 455	$8.08 3.21	$6.74 4.84	$9.33 5.70	907 230
4.	$8.49 7.98 $ .51	735 681	$6.35 3.64	312 240	$7.47 3.50	$9.09 8.49



MAKING MOVING PICTURES

The children decided to make a moving picture with their pictures of animals. Read the problems and find how they made the movie and how much it cost. Solve the problems and write the answers to the questions.

1. Tom and Billy bought a large box for 45¢, some paint for 12¢, nails for 8¢, and wood for 36¢. How much did they spend in all?

2. Jane and Mary bought the things to make the curtain. They paid $1.09 for the cloth, 27¢ for ribbon, and 8¢ for thread. How much did the curtain cost altogether?

Should you use the cent sign or the dollar sign and point when you write the example?

3. They had 42 pictures of circus animals. They used 18 of them for the movie. How many pictures were left?

4. They decided to put the pictures that were left on cardboard. They paid 12¢ for yellow cardboard, 24¢ for blue, 12¢ for green, and 12¢ for black. How much did the cardboard cost? Is your answer cents, or dollars and cents?

5. The children wrote stories about each of the animals to read to the people who came to the show. They had 31 stories, but they chose only 16 of them to read. How many stories were not chosen to read at the show?

6. The children asked 160 children to come to the first show and 172 to come to the second show. How many did they ask altogether?

7. The show lasted 35 minutes. It took the children 15 minutes to get from their rooms to the show, and 15 minutes to get back again. How many minutes were they out of their rooms in all? How many minutes more than an hour is this?

8. The children spent $1.44, $1.01, and $.60 to get ready for the show. How much did they spend?

9. The children sold candy bars in the lunch room one week to earn the money to pay for the show. They paid $6.75 for the candy bars and sold them for $9.35. How much money did they make?

10. The children spent $3.05 to get ready for the show. They earned $2.60. How much more money did they need to pay for the show?

PRACTICING SUBTRACTION

In subtraction, we have to know when to borrow and how to borrow. It is easy to work subtraction examples if we remember that:

1. We borrow when a figure in the top number is smaller than the figure just under it in the bottom number.

2. We think of the 1 that we borrowed as 10 ones, or as 10 tens.

3. When we borrow, we remember that we took 1 from the figure at the left, so it is now 1 less.

Copy the examples below and subtract. Check by adding the remainder to the number above it.

	A	B	C	D	E	F
1.	$9.87 7.82	535 492	$6.29 5.43	125 87	$8.29 5.59	708 290
2.	939 440	$9.11 4.03	612 392	$1.72 .87	$7.44 6.37	910 501
3.	162 96	994 236	$9.74 4.80	$9.49 2.86	600 160	$9.56 1.66
4.	517 410	$8.67 3.76	$9.10 8.05	783 490	$5.05 2.31	821 507

5. $1.72 – $.98

6. 736 – 350

7. 490 – 268

8. $8.18 – $4.41

CARRYING MORE THAN ONCE

Helen and Alan counted the money from the sale of candy bars. Helen said, "I have $4.79."

Alan said, "I have $4.56. Let's add, to see how much we have altogether."

Alan wrote the example and added. He said, "9 and 6 are 15. It is the same as 1 dime and 5 cents. I write the 5 in the sum and carry the 1."

$4.79
4.56
$9.35

Then he added the 1 with the 7. He said, "1 and 7 are 8, and 5 are 13. That is the same as 13 dimes. It means 1 dollar and 3 dimes. I write the 3 in the sum and carry the 1 to add with the dollars."

Then Alan added the dollars. He said, "1 and 4 are 5, and 4 are 9." He wrote the 9 in the sum and put in the point and dollar sign.

Helen said, "We have $9.35. You carried twice when you added."

Alan said, "That is easy. I carried the second time the same way I carried the first time."

Copy the example above without its sum. Then add. Read this page again if you need help.

Copy the examples below and add.

A	B	C	D	E	F
769	$1.47	536	282	$2.86	$4.27
143	5.89	285	28	2.14	.96

PRACTICING CARRYING TENS AND HUNDREDS

1. Copy this example and add. Think, 6 and 7 are 13, and 4 are 17. Which figure should you write in the sum? Which figure should you carry?

$$\begin{array}{r} 346 \\ 287 \\ 264 \\ \hline \end{array}$$

Now add the tens. You carried 1, so you should think, 1 and 4 are 5, and 8 are 13, and 6 are 19. Which figure should you write in the sum? Which figure should you carry?

Now add the hundreds. Think, 1 and 3 are 4, and 2 are 6, and 2 are 8. Write 8 in the sum. Now read the sum.

Write the sums for these examples on folded paper. Check each example before you work the next one.

	A	B	C	D	E	F
2.	585	$2.69	147	$5.76	$2.19	468
	327	5.46	687	2.59	4.81	453
3.	169	$3.52	274	$ .95	114	$3.49
	355	2.84	629	2.46	81	5.93
	454	3.24	82	2.18	615	.51

Copy these examples. Add and check.

4.	157	$1.33	315	$1.33	324	$ .86
	56	.79	96	.87	87	1.34
	554	3.23	415	5.33	446	6.42

CARRYING MORE THAN ONE TEN AND HUNDRED

1. Copy this example and add. Think, 8 and 9 are 17, and 8 are 25. Which figure should you write in ones' place in the sum? Which figure should you carry?

$$\begin{array}{r} 198 \\ 289 \\ \underline{258} \end{array}$$

When you add the tens, remember that you are carrying 2. Think, 2 and 9 are 11, and 8 are 19, and 5 are 24. Which figure should you write in tens' place? Which figure should you carry to the hundreds' column?

When you add the hundreds, remember that you must also add the figure that you carried. What is the sum?

Copy the example again. Then close your book and find the sum for yourself. If you need help, study again the directions for doing the example.

In some of the examples below, you will have to carry more than one ten and more than one hundred. Copy the examples and add down. Check your work by adding up.

	A	B	C	D	E	F
2.	$3.89 2.98 2.96	478 378 46	$4.50 3.04 1.35	787 99 92	$ .77 3.47 2.79	580 60 189
3.	397 438 65	$2.56 3.58 1.88	118 685 78	496 176 287	$2.98 4.97 .99	$3.29 .96 4.76

LEARNING TO BORROW MORE THAN ONCE

Mother said, "Judy, you may pay for the groceries when the boy brings them." Mother had only 5 one-dollar bills, 3 dimes, and 6 pennies in her pocketbook. The groceries cost $2.49.

The boy did not have any change. In order to pay him, Judy had to get change for a dime and a dollar. She used her own pennies and dimes.

Mother had	5 dollars, 3 dimes, and 6 pennies.
Judy needed	2 dollars, 4 dimes, and 9 pennies.

Judy changed 1 dime. She used 10 of her pennies.

Then she had	5 dollars, 2 dimes, and 16 pennies.
She needed	2 dollars, 4 dimes, and 9 pennies.

Judy could not take 4 dimes from 2 dimes, so she changed 1 dollar. She used 10 of her own dimes.

Then Judy had	4 dollars, 12 dimes, and 16 pennies.
She paid	2 dollars, 4 dimes, and 9 pennies.
She had left	2 dollars, 8 dimes, and 7 pennies.

BORROWING TENS AND HUNDREDS

Sometimes we have to borrow twice when we subtract. We do it this way:

We cannot subtract 7 from 6, so we use one of the 3 tens. We think of the 6 as 16. Then we subtract 7 from 16. We write the 9 in ones' place.

$$\begin{array}{r} 736 \\ \underline{587} \\ 149 \end{array}$$

We remember that we used one of the 3 tens and that there are only 2 left. We cannot subtract 8 from 2 so we use one of the 7 hundreds. The 1 hundred is 10 tens. So we think of the 2 as 12. We think, 8 from 12 is 4. We write the 4 in tens' place in the remainder.

Then we remember that we used one of the 7 hundreds and that there are only 6 left. So we think, 5 from 6 is 1. We write the 1 in hundreds' place in the remainder.

Copy the example without the remainder. Then close your book and subtract. If you need help, study the example again.

Copy the examples below. Subtract and check.

	A	B	C	D	E	F
1.	863 498	948 679	827 298	$8.51 5.84	$7.20 2.36	$9.55 7.68
2.	634 389	960 464	534 295	$9.47 3.69	$7.22 5.25	$9.60 7.97

LEARNING MORE ABOUT BORROWING

1. Mr. Wilson had one calf that weighed 503 pounds and another that weighed 268 pounds. How much more did the larger calf weigh?

In this example there is a zero in tens' place. Before we can subtract, we must borrow from hundreds' place.

$$\begin{array}{r}503\\ \underline{268}\end{array}$$

We cannot subtract 8 from 3, and there are no tens to borrow from. So we use one of the hundreds.

Then we have 4 hundreds, 10 tens, 3 ones.
2 hundreds, 6 tens, 8 ones.

Now we can use one of the 10 tens.

We then have 4 hundreds, 9 tens, 13 ones.
We subtract 2 hundreds, 6 tens, 8 ones.
We have left 2 hundreds, 3 tens, 5 ones.

We work the example this way: There are no tens in tens' place. So we use one of the 5 hundreds. Now we have 10 tens. We can use one of the 10 tens. Now we have 13 ones. We think, 8 from 13 is 5. We write the 5 in ones' place in the remainder.

$$\begin{array}{r}503\\ \underline{268}\\ 235\end{array}$$

We have used one of the 10 tens so we have 9 tens left. We think, 6 from 9 is 3, and write the 3 in tens' place.

We have used one of the 5 hundreds and have 4 hundreds left. We think, 2 from 4 is 2.

Copy the example and find the remainder yourself.

Copy the examples in Row **2.** Subtract and check.

	A	B	C	D	E	F
2.	901	802	503	\$6.01	903	\$6.02
	232	157	274	2.28	445	3.13

3. In this example, there are zeros in both ones' place and tens' place. To subtract, we use one of the 8 hundreds and think of it as 10 tens.

$$\begin{array}{r} 800 \\ \underline{264} \\ 536 \end{array}$$

We use one of the 10 tens. Now we have 10 in ones' place. We think, 4 from 10 is 6, and write the 6 in the remainder.

We used one of the 10 tens. Now we have 9 tens left. We think, 6 from 9 is 3, and write the 3 in the remainder.

We used one of the 8 hundreds. We have 7 hundreds left. We think, 2 from 7 is 5, and write the 5 in the remainder.

Copy the example and find the remainder.

Copy the examples below. Subtract and check.

	A	B	C	D	E	F
4.	700	800	\$9.00	900	\$8.00	\$8.00
	282	435	2.13	447	5.78	3.56
5.	406	\$6.00	905	\$8.10	710	\$6.00
	287	3.71	168	3.09	470	1.04

PRACTICING SUBTRACTION

In some of these examples, you will not have to borrow. In others, you will have to borrow once or twice. Work carefully and make sure your work is correct. Check each example before you do the next one. Write the remainders on folded paper.

	A	B	C	D	E	F
1.	597 532	647 295	$7.66 6.09	658 369	$9.05 5.57	938 508
2.	791 164	900 213	$9.73 2.03	703 146	$5.30 2.81	850 390
3.	752 379	913 709	$8.76 7.94	900 474	$1.76 .46	322 237
4.	739 270	740 340	$9.00 7.47	170 32	$8.00 3.26	900 288
5.	905 376	833 453	$9.84 5.95	992 690	$9.76 4.27	800 265

THINK AND ANSWER

1. Which is more, ten hundred or a thousand?
2. Are most men about 6 feet, or 8 feet tall?
3. About how tall are doors in houses? Why?

MAKING SURE OF CARRYING

The examples on this page will help you make sure that you know how to carry in addition. If you need help, turn to the pages given at the ends of the rows. Copy the examples carefully. Add down, then add up to make sure your work is correct.

	A	B	C	D	E	
1.	434 329	\$7.27 1.35	611 79	\$3.03 6.88	534 406	**225**
2.	99 57 45 87	\$.09 .78 .19 .98	99 79 45 47	68 49 81 5	\$4.07 .08 5.05	**228** **229**
3.	178 440	\$5.50 3.70	774 135	\$6.60 2.86	445 80	**248**
4.	270 295 250	\$3.80 2.70 1.79	180 167 460	\$5.60 2.70 .83	460 92 180	**250**
5.	249 484	\$2.59 5.66	388 112	\$4.75 .75	865 69	**256**
6.	198 266 148	\$2.87 1.57 3.57	379 359 63	\$2.66 .55 5.99	78 535 287	**257**

MAKING SURE OF BORROWING

The examples on this page will help you make sure that you know how to borrow in subtraction. Copy the examples carefully and subtract. Then check to make sure your work is correct. If you need help, turn to the pages given at the ends of the rows.

	A	B	C	D	E	
1.	91¢ 47¢	73¢ 25¢	55 27	97 58	82 34	**234** **235**
2.	164 86	123 69	$1.41 .72	994 525	$9.93 7.34	**237**
3.	960 124	680 447	$9.10 4.02	912 605	$9.14 2.08	**238**
4.	426 76	854 590	$8.10 2.50	957 867	$9.79 6.93	**251**
5.	744 367	956 797	$6.70 3.85	935 139	$6.38 5.69	**259**
6.	806 369	901 584	$9.03 3.38	800 489	$8.00 2.91	**260** **261**

7. $1.22 – $.89

8. 120 – 91

9. $1.22 – $.38

10. $1.00 – $.19

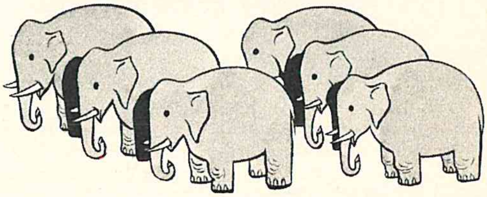
THE TOY CIRCUS

The boys made a toy circus of cardboard.

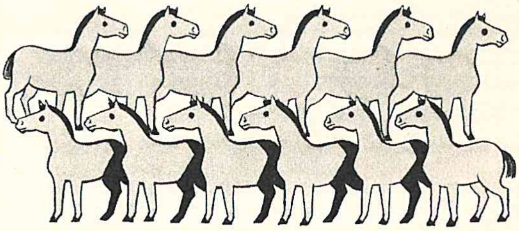
1. James made 2 rows of clowns with 7 in each row. How many are 7 and 7? How many are two 7's?

2. Alan made 2 rows of zebras with 4 in each row. How many are 4 and 4? How many are two 4's?

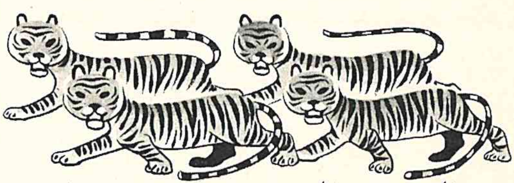
3. Tom made 2 rows of elephants with 3 in each row. How many are 3 and 3? How many are two 3's?



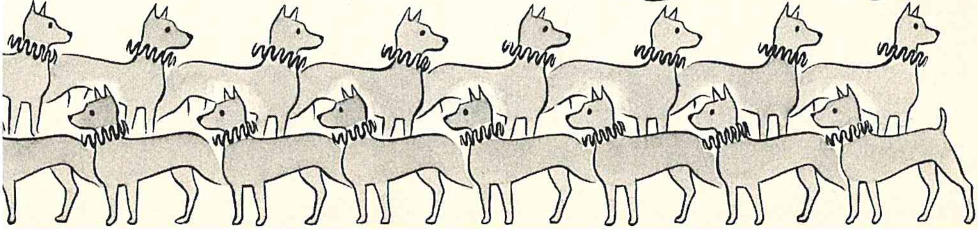
4. Billy made 2 rows of horses with 6 in each row. How many are 6 and 6? How many are two 6's?

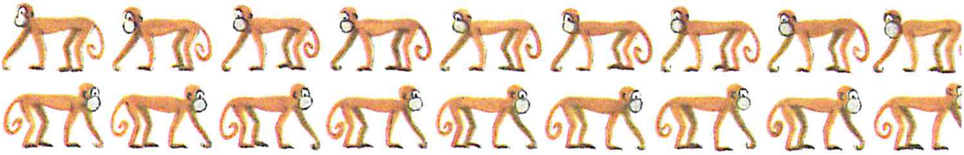


5. Alan made 2 rows of tigers with 2 in each row. How many are 2 and 2? How many are two 2's?

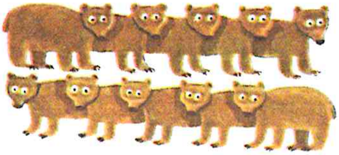


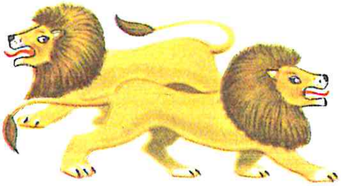
6. John made 2 rows of dogs with 8 in each row. How many are 8 and 8? How many are two 8's?





7. John made 2 rows of monkeys with 9 in each row. How many are 9 and 9? How many are two 9's?





8. Tom made 2 rows of bears with 5 in each row. How many are 5 and 5? How many are two 5's?

9. Billy made 1 lion. Tom made 1 lion. How many are 1 and 1? How many are two 1's?

10. Read each example below and say the answer.

A. 8
+ 8 Two 8's are ?.

B. 5
+ 5 Two 5's are ?.

C. 7
+ 7 Two 7's are ?.

D. 3
+ 3 Two 3's are ?.

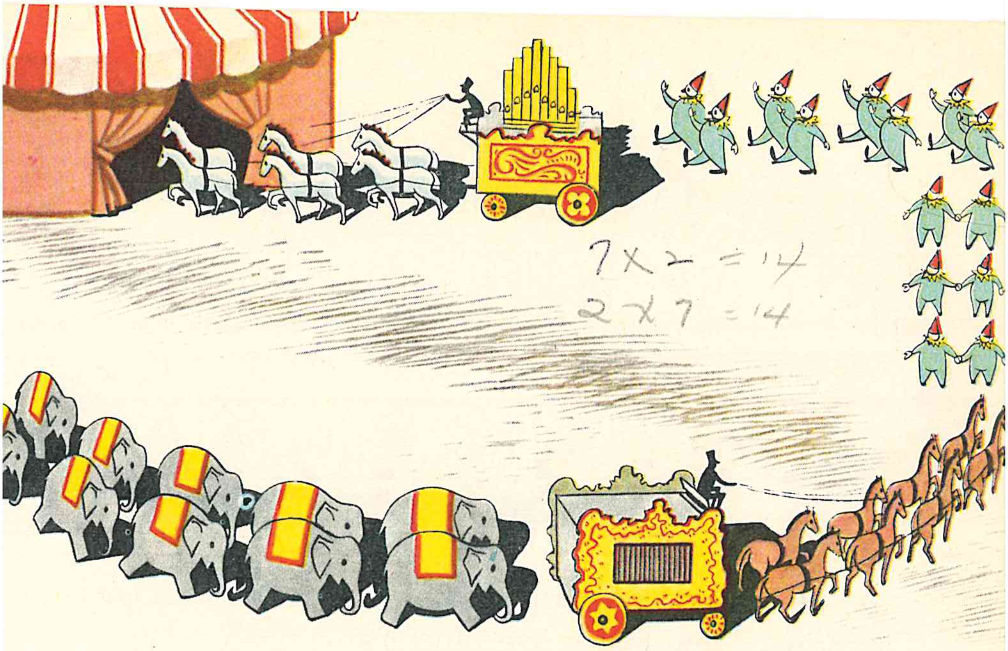
E. 4
+ 4 Two 4's are ?.

F. 2
+ 2 Two 2's are ?.

G. 6
+ 6 Two 6's are ?.

H. 1
+ 1 Two 1's are ?.

I. 9
+ 9 Two 9's are ?.



$7 \times 2 = 14$

$2 \times 7 = 14$

THE CIRCUS PARADE

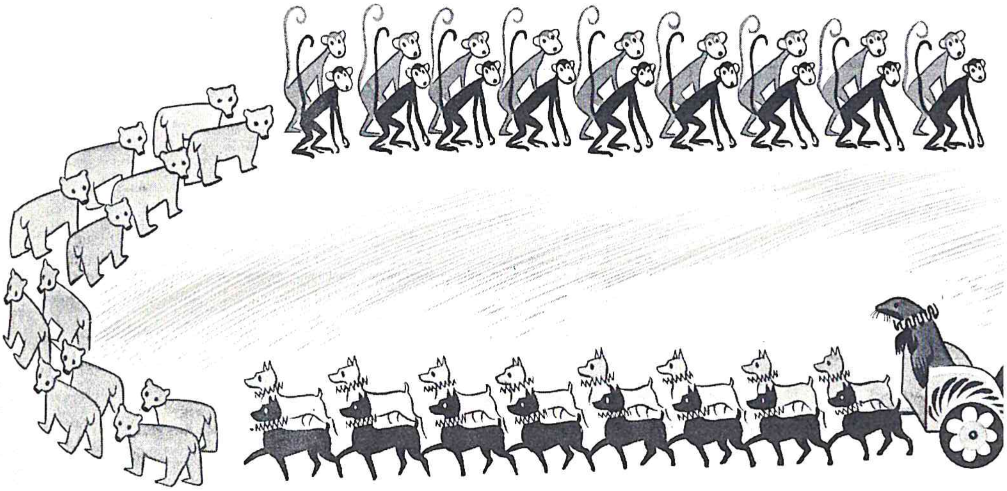
The boys made some wagons, clowns, and animals for their circus. Then they had a parade.

1. The first wagon in the parade had 3 groups of horses. There were 2 horses in each group. How many are 2 and 2 and 2? How many are three 2's?

2. The clowns marched behind the first wagon. There were 7 groups of clowns with 2 in each group. How many are seven 2's?

3. The second circus wagon had 4 groups of horses pulling it, with 2 horses in each group. How many are four 2's?

4. The elephants marched behind the second wagon. There were 5 groups of elephants, with 2 in each group. How many are five 2's?



5. Then came 9 groups of monkeys with 2 in each group. How many are nine 2's?

6. Next came 6 groups of bears with 2 in each group. How many are six 2's?

7. A cart with a seal in it came last in the parade. It was pulled by 8 groups of dogs with 2 in each group. How many are eight 2's?

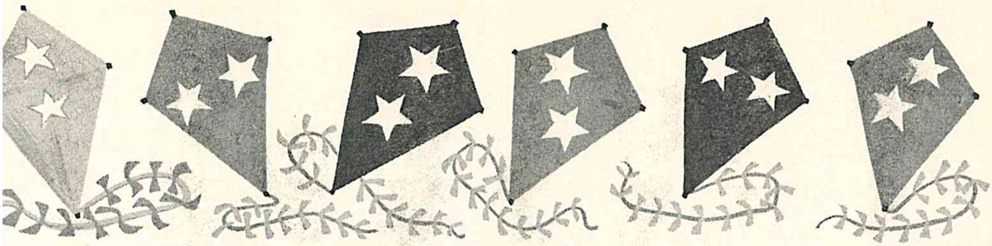
We can find the answers to the questions about the circus parade in two ways. To find how many horses were pulling the first wagon, we can add; or we can think, three 2's are 6. The answer is the same, 6 horses.

$$\begin{array}{r}2\\2\\\underline{2}\\6\end{array}$$

To find how many horses were pulling the second wagon, we can add; or we can think, four 2's are 8. The answer is the same, 8 horses.

$$\begin{array}{r}2\\2\\2\\\underline{2}\\8\end{array}$$

How many are eight 2's? seven 2's? six 2's? nine 2's? five 2's? two 2's?



LEARNING WHAT MULTIPLICATION MEANS

The boys made 6 kites. They put 2 stars on each kite. How many stars did they use on all six kites?

We can add six 2's or we can count by 2's to find how many stars were used on all 6 of the kites. Look at the kites in the picture and count the stars by 2's.

A shorter way to find the answer is to think, six 2's are 12. When we think, six 2's are 12, we **multiply** 2 by 6.

▶ **Multiplication** is a short way to add. This sign (×) tells us to multiply. We call it the **multiplication sign.**

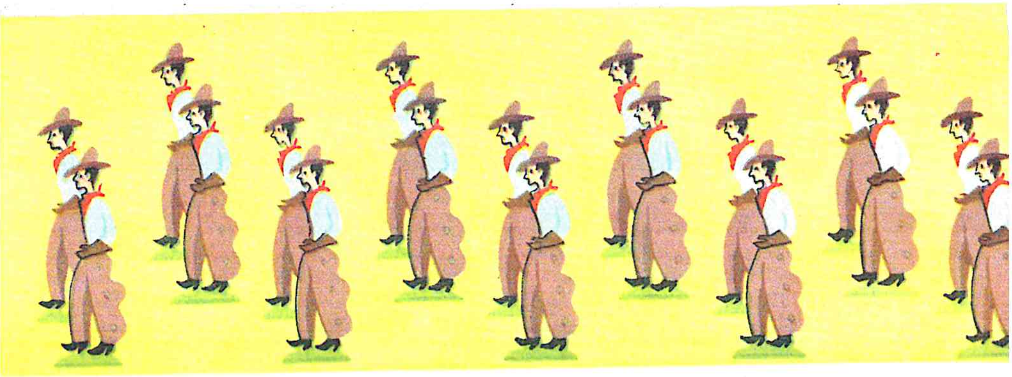
The example with its answer is a **multiplication fact.** We read the fact, "six 2's are 12."

$$\begin{array}{r} 2 \\ \times 6 \\ \hline 12 \end{array}$$

Read the multiplication examples below with their answers. Read the first, "five 2's are 10."

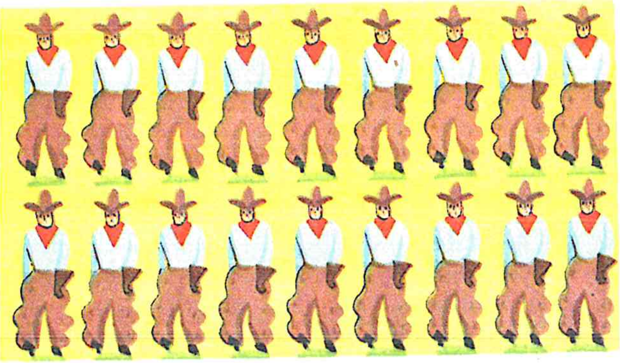
Copy and learn the facts.

$$\begin{array}{r} 2 \\ \times 5 \\ \hline 10 \end{array} \quad \begin{array}{r} 2 \\ \times 7 \\ \hline 14 \end{array} \quad \begin{array}{r} 2 \\ \times 4 \\ \hline 8 \end{array} \quad \begin{array}{r} 2 \\ \times 9 \\ \hline 18 \end{array} \quad \begin{array}{r} 2 \\ \times 6 \\ \hline 12 \end{array} \quad \begin{array}{r} 2 \\ \times 3 \\ \hline 6 \end{array} \quad \begin{array}{r} 2 \\ \times 8 \\ \hline 16 \end{array} \quad \begin{array}{r} 2 \\ \times 2 \\ \hline 4 \end{array}$$



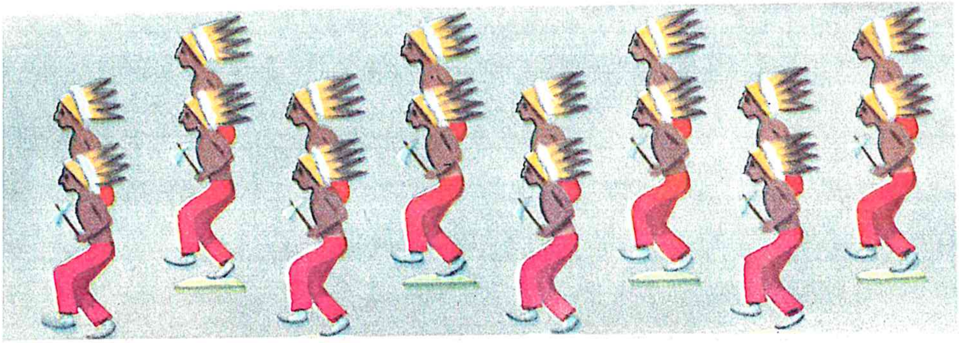
MORE PARADES

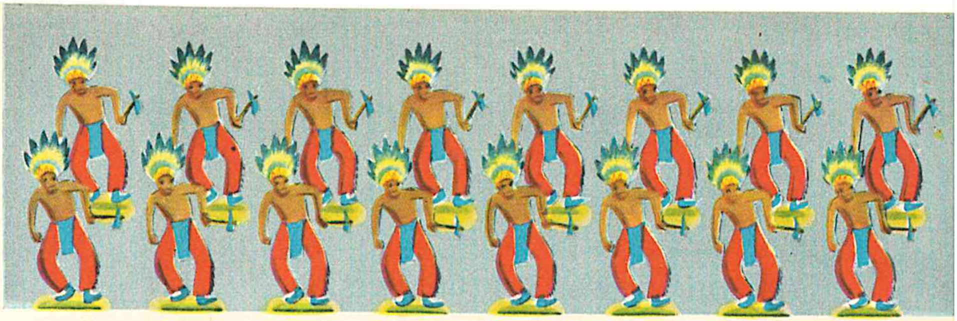
1. James used his toy cowboys for the parade above. How many cowboys are in each group? How many groups are there? How many cowboys are in the parade? How many are nine 2's?



2. In this parade, how many cowboys are in each group? How many groups are there? How many cowboys are in the parade? How many are two 9's?

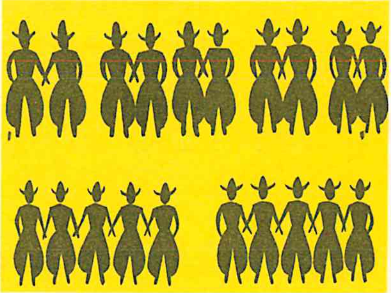
3. Billy made the parade below with his toy Indians. How many Indians are in each group? How many groups are there? How many Indians are there in this parade? How many are eight 2's?





4. Look at the parade above. How many Indians are in each group? How many groups are there? How many Indians are in this parade? How many are two 8's?

Look at these two multiplication examples:



$\begin{array}{r} 2 \\ \times 5 \\ \hline 10 \end{array}$ means 5 groups of 2

$\begin{array}{r} 5 \\ \times 2 \\ \hline 10 \end{array}$ means 2 groups of 5

The answer is the same for both examples. Five 2's are 10, and two 5's are 10.

Copy the examples below and write the answers. Make pictures to show what they mean.

	A		B		C		D	
5.	$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$
6.	$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ \times 2 \\ \hline \end{array}$

MAKING PICTURES FOR PROBLEMS

Read Problems **1**, **2**, and **3** carefully. Then make a picture to show what each problem tells. Write the answer to the question.

1. Mary put 4 dishes on the table. Then she put 4 cookies in each dish. How many cookies did she put in the dishes altogether? How many are four 4's?

2. Tom made 5 rings. He put 5 marbles in each ring. How many marbles did Tom put in all of the rings? How many are five 5's?

3. Jane made 3 cards. She put 3 flowers on each card. How many flowers did she put on all of the cards? How many are three 3's?

Copy and learn these multiplication facts:

$$\begin{array}{r} 3 \\ \times 3 \\ \hline 9 \end{array} \qquad \begin{array}{r} 4 \\ \times 4 \\ \hline 16 \end{array} \qquad \begin{array}{r} 5 \\ \times 5 \\ \hline 25 \end{array}$$

Read each problem below and answer the question.

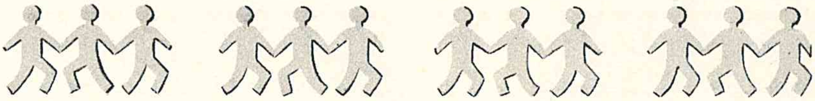
4. Alan made 9 airplanes. He used 2 pieces of wood for each airplane. How many pieces of wood did he use for all of them?

5. Tom made 8 sailboats. He put 2 sails on each boat. How many sails did he use?

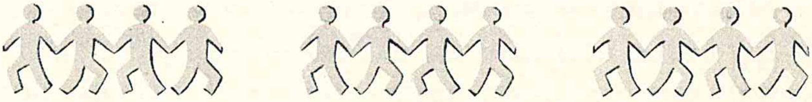
6. Billy made 7 carts. He put 2 wheels on each cart. How many wheels did he use?

CUTTING PAPER DOLLS

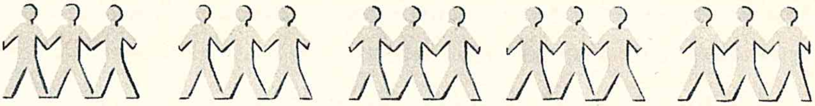
1. Judy folded paper and cut rows of dolls. First she cut 4 rows of dolls. Each row had 3 dolls in it. How many dolls did Judy cut in all? How many are four 3's?



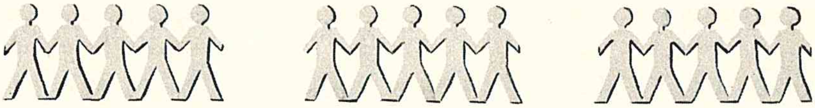
2. The second time Judy tried, she cut 3 rows with 4 dolls in each row. How many dolls did Judy cut this time? How many are three 4's?



3. Then Judy cut 5 rows of dolls with 3 in each row. How many dolls were there this time? How many are five 3's?



4. The last time Judy tried, she cut 3 rows of dolls with 5 in each row. How many dolls did she cut the last time? How many are three 5's?



Copy and learn these multiplication facts:

$$\begin{array}{r}3\\\times4\\\hline 12\end{array}\qquad\begin{array}{r}4\\\times3\\\hline 12\end{array}\qquad\begin{array}{r}3\\\times5\\\hline 15\end{array}\qquad\begin{array}{r}5\\\times3\\\hline 15\end{array}$$

SHOPPING

Sometimes a problem tells us how much one thing costs, and asks us to find how much several things cost that are alike. We multiply to find the answer. Read these problems about the things Susan bought for her mother. Think about each problem before you try to answer the question.

1. Susan bought 3 oranges at 5¢ each. How much did she pay for all of them?

Think, 1 orange costs 5¢, and Susan bought 3. Then multiply to find the answer.

2. The apples were 4¢ each. Susan bought 4 apples. How much did she pay for all of them?

Think how much one apple costs. Then think how many apples Susan bought. What should you do to find the answer?

3. Susan bought 5 plums at 3¢ each. How much did she pay for all of them?

USING WHAT YOU HAVE LEARNED

Sometimes a problem tells us how many things there are in one group and asks us to find how many there are in several groups that are alike. We multiply to find the answer.

Read each of these problems carefully before you decide what to do. Then answer the questions.

1. There are 3 tables in the room, and 4 children are working at each table. How many children are working altogether?

2. The boys made cars for 5 trains. Each train had 5 cars. How many cars did they make?

3. Five birds are in each of 2 birdhouses in the garden. How many birds are in both birdhouses?

4. The girls have 3 doll beds. They put 3 dolls in each bed. How many dolls are there?

5. Four boys were playing in the yard. Mother gave each boy 3 cookies. How many cookies did she give the boys altogether?

Say the answers for the examples below.

6. Four 3's are ? Two 9's are ? Seven 2's are ?
7. Five 5's are ? Two 8's are ? Three 3's are ?
8. Three 4's are ? Four 4's are ? Three 5's are ?
9. $6 \times 2 = ?$ $5 \times 3 = ?$ $8 \times 2 = ?$
10. $2 \times 7 = ?$ $2 \times 6 = ?$ $5 \times 2 = ?$

KEEPING IN PRACTICE

Watch the signs and say the answers.

	A	B	C	D
1.	12 − 3	8 × 2	22 + 6	5 × 5
2.	3 × 4	24 + 7	4 × 4	13 − 5
3.	7 × 2	5 × 3	16 + 6	4 × 3
4.	12 − 5	3 × 3	3 × 5	24 + 3

Fold a paper under the examples in Rows **5**, **6**, and **7**. Do what the signs tell you to do. Check each example before you work the next one.

	A	B	C	D	E
5.	$4.05 +5.69	$9.60 −7.80	985 −546	458 +485	$7.90 −5.33
6.	$9.67 −4.07	420 +375	956 −689	$9.00 −5.34	$3.88 +4.69
7.	473 88 386	$2.25 5.47 1.07	280 270 268	169 548 94	$3.29 .89 1.86

Copy and work the examples below. Check each one before you do the next one.

	A	B	C
8.	$7.84 − $3.60	469 + 370	932 − 572
9.	$7.76 + $2.09	770 − 235	936 − 486
10.	$4.98 + $3.12	936 − 767	915 − 807
11.	$9.00 − $2.97	670 + 266	624 − 547
12.	$9.31 − $1.93	309 + 294	700 − 226

LEARNING WHEN TO MULTIPLY AND WHEN TO ADD

In some of the problems below, you will multiply to find the answers to the questions that are asked. In others, you will add.

You can decide what you should do by reading the problem carefully and thinking about it. It will be helpful to make pictures for the problems.

1. Jane saved 4¢ on Monday and 3¢ on Friday. How much money did she save in the two days?

2. Apples cost 5¢ each. How much will 5 apples cost?

3. The third-grade room has 4 windows. The girls put 3 flower pots in each window. How many flower pots are there in all the windows?

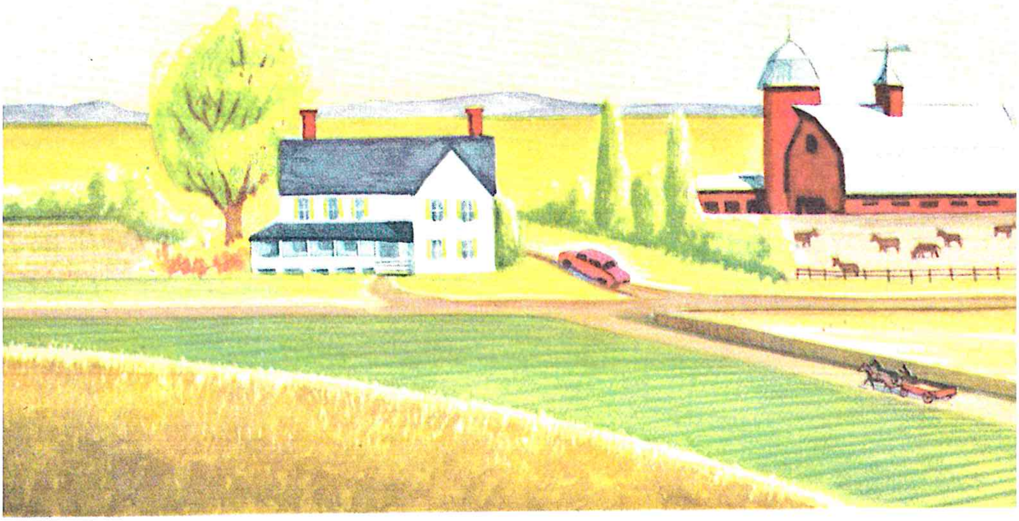
4. Two kites are flying near the trees and 5 are flying high in the sky. How many kites are flying altogether?

5. Tom bought 5 stamps that cost 3¢ each. How much did he pay for all of the stamps?

6. The boys made 4 pictures of cowboys and 2 of airplanes. How many pictures did they make?

7. Mary put 4 bottles of milk on each of 4 tables. How many bottles of milk were there?

8. Helen put 2 shoes on each of 6 dolls. How many shoes did she put on all of the dolls?



LEARNING HOW TO MULTIPLY

1. Helen said, "We went to Mr. Wilson's farm four times last month. It is 22 miles to the farm and back. How many miles did we go on the four trips?"

Miss Martin said, "We could add to find the answer. But multiplication is a short way to add. We can multiply 22 by 4."

Then she wrote the example this way: ⟶

$$\begin{array}{r} 22 \\ \times 4 \\ \hline 88 \end{array}$$

Miss Martin said, "First we multiply the 2 in ones' place by the 4. We think, four 2's are 8. We write the 8 in ones' place in the answer.

"Then we multiply the 2 in tens' place by the 4. We think, four 2's are 8. We write the 8 in tens' place in the answer. Helen went 88 miles on the 4 trips."

2. Mary said, "I have a problem for us. Mrs. Wilson sold 3 pints of cream at 32¢ a pint. How much did she get for all of the cream?"

Write the example this way: ⟶ Multiply the 2 in the top number by the 3. What are three 2's? What should you write in that place in the answer?

$$\begin{array}{r} 32\text{¢} \\ \times 3 \\ \hline \end{array}$$

Then multiply the 3 in the top number by the 3. What are three 3's? What should you write in that place in the answer? Where will you put the cent sign? How much did Mrs. Wilson get for the cream?

3. James said, "Mr. Wilson sold 23 cans of milk last month and 23 cans the month before. How many cans of milk did he sell in the 2 months?"

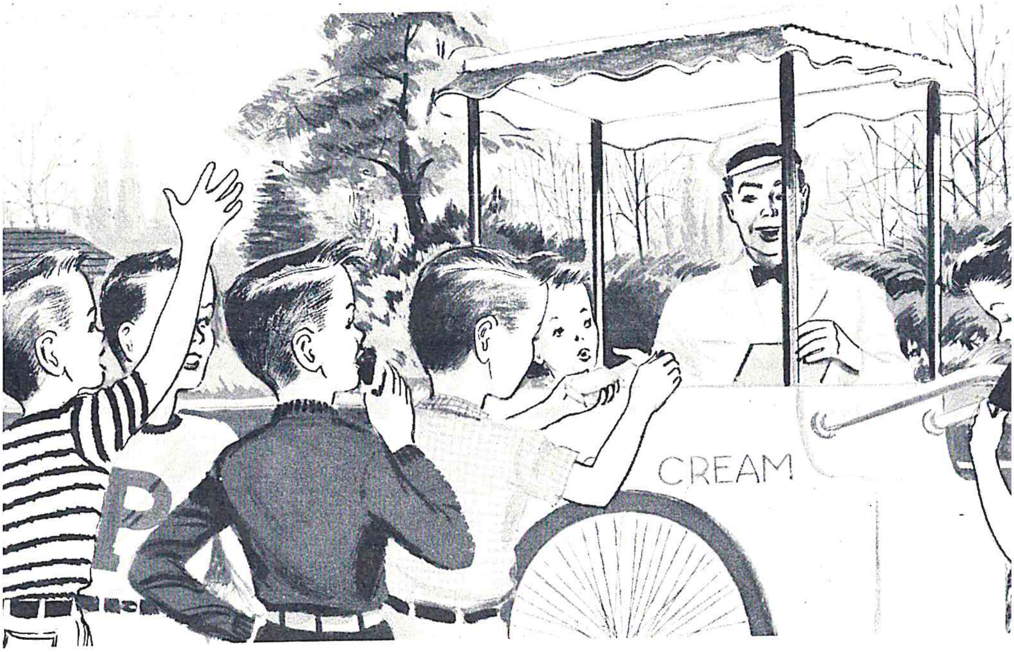
Multiply 23 by 2 to find the answer.

4. John said, "I have a problem. I gathered the eggs on three days. I found 33 eggs each day."

How many eggs did he find in all?

5. Copy the examples below and multiply. Be sure to begin at the right to multiply. When you multiply cents, be sure to put the cent sign in the answer.

A	B	C	D	E	F	G	H
23	32	42¢	22	22	22¢	24	44¢
3	2	2	4	2	3	2	2



MULTIPLYING ONE

1. Five boys bought ice-cream bars. Each boy bought 1. How many did they buy in all? How many are five 1's?

2. Eight girls bought ice-cream bars. Each girl bought 1 bar. How many did they buy altogether? How many are eight 1's?

3. John saves 1¢ each day. How much does he save in 7 days? How many are seven 1's?

It is easy to multiply 1 by **any** number. When you multiply 1 by a number, what is the answer?

4. Copy the examples below and multiply.

A	B	C	D	E	F	G	H
21	41	11	12	11	11	11	11
3	2	8	4	7	5	9	6

1. Jane bought 2 books. She paid 73¢ each for them. How much did she pay for the two books?

We write the example with the dollar sign and the point because the answer will be more than one dollar. Then we multiply. We think, two 3's are 6. We write the 6 exactly under the 2.

$$\begin{array}{r} \$\ .73 \\ \times 2 \\ \hline \$1.46 \end{array}$$

Then we multiply the 7 by the 2. We think, two 7's are 14. Where do we write the 4? Where do we write the 1? We put the dollar sign to the left of the answer, and the point between the 1 and the 4 to show two places for cents.

How much did Jane pay for the books?

2. Billy said, "There are 52 weeks in a year. How many weeks are there in 2 years?"

Write the example. Multiply the 2 by the 2. What should you write in the answer? Now multiply the 5 by the 2. What should you write in the answer?

$$\begin{array}{r} 52 \\ \times 2 \\ \hline \end{array}$$

How many weeks are there in two years?

Copy the examples below and multiply.

	A	B	C	D	E	F	G	H
3.	53 2	$.54 2	21 9	52 3	72 2	$.41 4	84 2	$.63 2
4.	21 6	$.21 8	94 2	21 7	41 3	$.51 5	93 2	21 5

SAVING MONEY

These children are saving money. Read the problems and find how much each has saved.

1. Judy put a dime in her bank on Monday and another on Tuesday. How much money did she put in her bank in the two days?

Do the example this way: Think, 1 dime is 10 cents, two 10's are 20. Since the 10 is cents, the 20 is 20¢. Judy saved 20¢.

$$\begin{array}{r} 10\text{¢} \\ \times 2 \\ \hline 20\text{¢} \end{array}$$

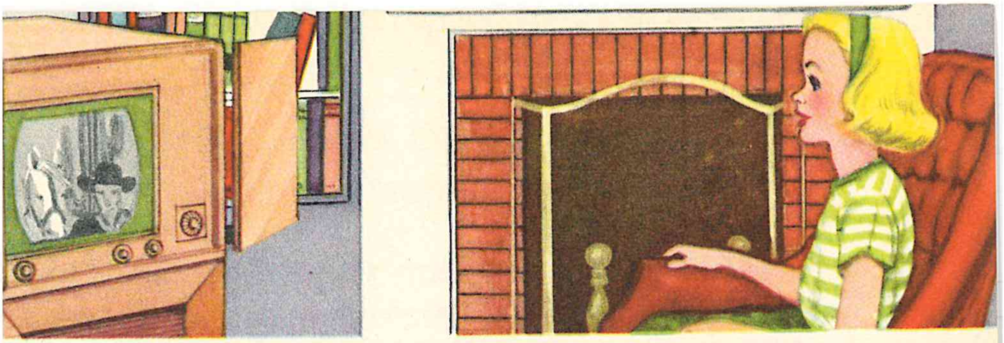
2. Tom saves 2 dimes or 20¢ each week. How much does he save in 4 weeks?

We write the example with the cent sign because the answer will be less than one dollar.

Multiply this way: ⟶ The zero shows that there is nothing in that place to multiply. Write 0 in the answer. Four 2's are 8. Since the 20 is cents, the 80 means 80¢.

$$\begin{array}{r} 20\text{¢} \\ \times 4 \\ \hline 80\text{¢} \end{array}$$

3. James saves 30¢ each month. How much does he save in 3 months?



MULTIPLYING WITH ZEROS IN ONES' PLACE

1. Jane's favorite television show is 30 minutes long. She watches it 5 days each week. How many minutes each week does Jane watch the show?

We multiply this way: ⟶

There are no ones in ones' place to multiply, so we write 0 in ones' place in the answer. Then we think, five 3's are 15, and write 15 in the answer. Read the answer.

$$\begin{array}{r} 30 \\ \times 5 \\ \hline 150 \end{array}$$

2. Copy this example and multiply. Why do we write 0 in the answer? What should you write in the answer when you multiply 2 by 6? Where will you write the point and the dollar sign?

$$\begin{array}{r} \$\ .20 \\ \times 6 \\ \hline 0 \end{array}$$

Copy the examples below and multiply. Remember that zero in ones' place shows that there is nothing in that place to multiply. We write 0 in the answer in ones' place.

	A	B	C	D	E	F	G	H
3.	20 7	$.40 3	$.40 4	50 5	20 9	$.50 2	20 8	$.90 2

LEARNING WHEN TO MULTIPLY AND WHEN TO SUBTRACT

In some of these problems you will multiply to find the answers to the questions that are asked. In others, you will subtract. You can decide what to do to find the answers by thinking what the problems are about and what the questions ask.

When you have the answer, ask yourself, "Is my answer sensible?" If it does not make sense, read the problem again and solve it.

1. Large puzzles cost 20¢ each. How much will 3 large puzzles cost?

Does each puzzle cost the same amount? How will you find what 3 puzzles cost?

2. James has 60¢ in his bank. If he spends 20¢ for a puzzle, how much will he have left?

Think about the problem. Will James have more money or less money than he had before?

3. Helen has 8¢. How much more money does she need to buy a puzzle that costs 20¢?

4. John wants to make 4 houses with his blocks. He needs 20 blocks for each house. How many blocks does he need to make the four houses?

5. Susan has 12 plates and 6 cups for her dolls. How many fewer cups than plates does she have?

6. A set of dishes costs 30¢. What will 3 sets cost?

MULTIPLYING THREE-PLACE NUMBERS

1. Copy this example and multiply the figure in ones' place first. What are two 1's? Write this number in your answer.

$$\begin{array}{r} 341 \\ \times 2 \\ \hline \end{array}$$

Now multiply the figure in tens' place by the 2. What are two 4's?

Then multiply the figure in hundreds' place by the 2. Read your answer.

2. Copy this example and multiply. Think, two 4's are 8. Write the 8 exactly under the 2.

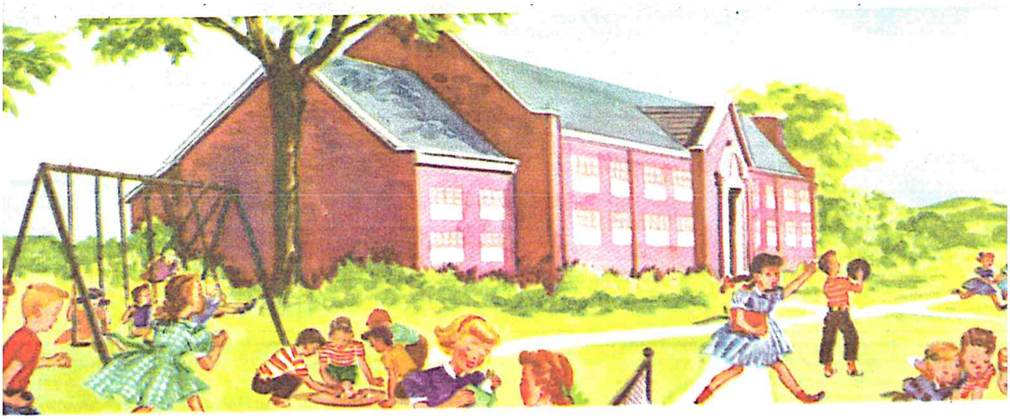
$$\begin{array}{r} \$3.04 \\ \times 2 \\ \hline \$6.08 \end{array}$$

The zero shows that there is nothing in that place to multiply. Where will you write 0 in the answer?

Then multiply the 3 by the 2. Think, two 3's are 6. Where will you write the 6 in the answer? Where will you put the dollar sign and the point? Now read the answer.

Copy the examples below and multiply.

	A	B	C	D	E	F
3.	323 3	110 7	$1.34 2	230 3	$3.12 2	201 4
4.	221 4	101 6	$3.42 2	101 9	$1.03 3	412 2
5.	203 2	102 4	$1.00 5	400 2	$3.02 3	110 8



LEARNING TO SOLVE PROBLEMS

The children played many games on the playground. Each problem tells a story. The answer to the question asked in the problem tells the end of the story.

Read each problem and decide what to do to find the answer. When you know what to do, find the answer and write it on your paper.

1. Four lines of children were playing follow-the-leader. There were 20 children in each line. How many children were playing this game?

2. There were 12 children at the slide and 4 in the swings. How many children were in these two places?

3. Four groups of children were playing marbles. There were 4 children in each group. How many were playing marbles in all?

4. Fifteen children were playing ball and 80 were playing follow-the-leader. What is the difference between the numbers playing the two games?

5. There were 3 ball teams with 5 boys on each team. How many boys were on the three teams?

6. There were 3 ring-toss games. Four children were playing each game. How many children were playing ring toss?

7. Nine girls and 2 boys were playing tag. How many children were playing this game?

8. Susan said, "All of the children from 5 rooms are on the playground."

Miss Martin said, "That is a large group. There are about 30 children in each room."

About how many children were on the playground?

9. Tom said, "Miss Martin, we took 36 rings out, but we brought back only 29."

How many more rings did they take out than they brought back?

10. Billy said, "We made 22 points in the first ring-toss game and 8 in the second."

How many points did they make in both games?

If you miss any of the problems, try again to answer the questions asked in them.

MAKING SURE OF MULTIPLICATION

Multiply, and write the answers for the examples in Rows **1, 2,** and **3** on folded paper.

If there are any examples that you cannot do, leave them and do the others. Then turn to the page of facts in the back of your book. Copy and learn the facts that you do not know.

	A	B	C	D	E	F	G	H	I	J
1.	4 4	2 5	1 8	3 4	8 2	2 6	5 2	1 6	3 5	2 7
2.	9 2	2 3	2 8	1 3	4 2	3 3	1 4	7 2	2 9	5 5
3.	1 5	4 3	6 2	1 2	2 4	1 7	3 2	5 3	2 2	1 9

Copy the examples in Rows **4, 5,** and **6,** and multiply. If you miss any examples, turn to the pages given at the ends of the rows. Learn to do those you miss.

	A	B	C	D	E	
4.	23¢ 3	41 2	74 2	$.92 2	51 3	**279** **280** **281**
5.	30¢ 2	10 6	20 8	$.40 3	50 3	**282** **283**
6.	414 2	240 2	304 2	$2.00 4	101 7	**285**

KEEPING IN PRACTICE

Do what the signs tell you to do in the examples below. Write the answers on folded paper.

	A	B	C	D	E	F
1.	90 ×2	77 +39	90 −22	$.20 ×9	$7.09 −3.70	20 ×6
2.	$.30 ×5	605 −327	413 ×2	70 +39	30 ×4	$7.62 −4.84
3.	$.84 +.57	50 ×5	986 −882	62 ×2	38 +56	$1.03 ×2
4.	590 +98	$5.75 −2.80	$.42 ×4	467 +357	$1.26 +7.74	43 ×3
5.	461 −425	$.81 ×2	954 −196	20 ×5	$8.00 −2.16	73 ×2

THINK AND ANSWER

1. How many 2¢ marbles can John buy for 8¢?

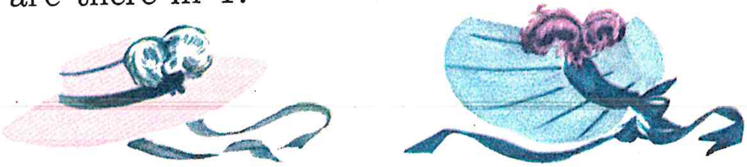
2. How many 3¢ stamps can Tom buy for 9¢?

3. Mother has 6 cookies. She wants to give them to 3 boys. How many cookies should she give to each boy?

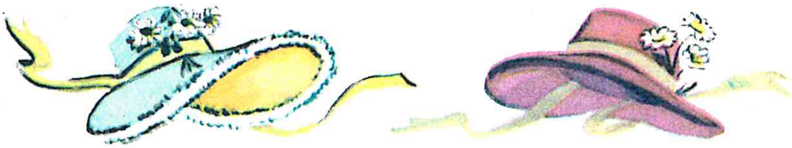
MAKING CLOTHES FOR THE DOLLS

The girls made some new clothes for their dolls. Look at the pictures below. They will help you to answer the questions about the clothes.

1. Mary found 4 feathers to put on hats for the dolls. She put 2 feathers on each hat. She had enough feathers for how many hats? How many 2's are there in 4?



2. Jane had 6 flowers. She put 3 flowers on each hat. On how many hats did she put flowers? How many 3's are there in 6?



3. Helen said, "I have 6 buttons and I need 2 for each dress."

Helen had enough buttons for how many dresses? How many 2's are there in 6?

$\begin{array}{r}3\\2\overline{)6}\end{array}$

4. Mary made 10 hair bows. Each doll needs 2 bows. Mary made enough bows for how many dolls? How many 2's are there in 10?

$\begin{array}{r}5\\2\overline{)10}\end{array}$

5. Jane made 8 aprons. She said, "Each doll needs 2 aprons."

Jane made enough aprons for how many dolls? How many 2's are there in 8?

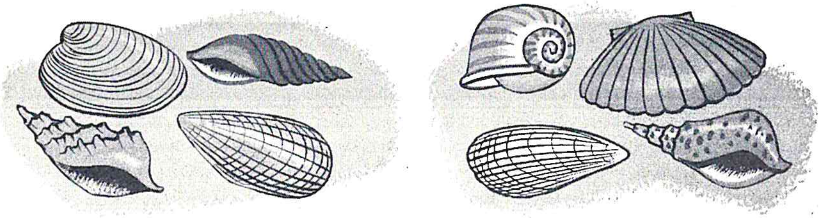
$\begin{array}{r}4\\2\overline{)8}\end{array}$

6. The girls made 12 shoes. Two shoes make a pair. How many pairs of shoes did they make? How many 2's are there in 12?

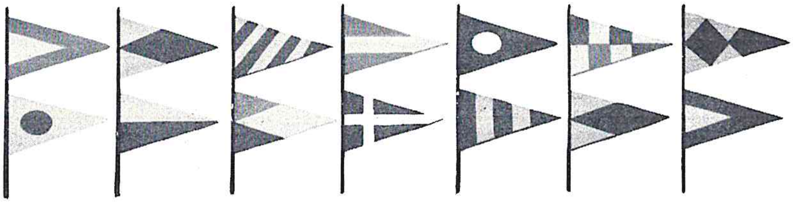
$\begin{array}{r}6\\2\overline{)12}\end{array}$

FINDING THE NUMBER OF GROUPS

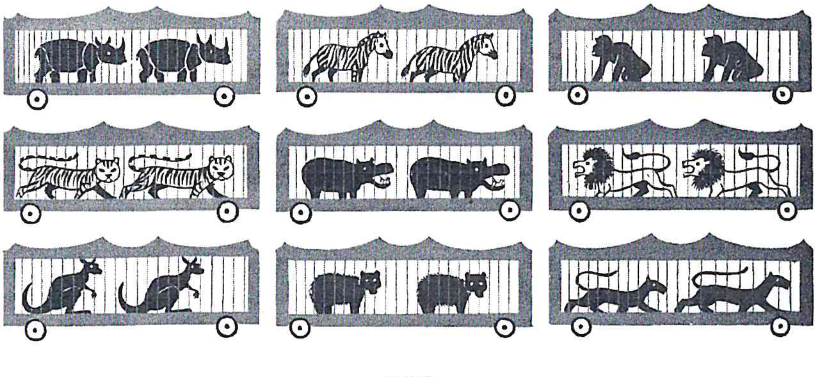
1. Susan has 8 shells. She put 4 shells in each group. How many groups of shells does she have? How many 4's are there in 8?



2. Tom had 14 flags. He put 2 flags in each group. How many groups did he have? How many 2's are there in 14?

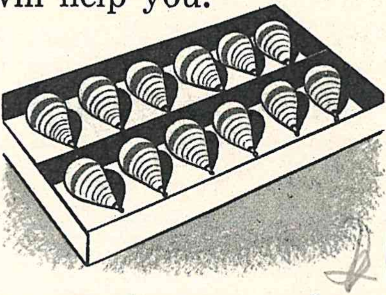


3. James has 18 animals in his toy zoo. He keeps 2 animals in each group. How many groups does he have? How many 2's are there in 18?



DIVIDING THINGS INTO EQUAL GROUPS

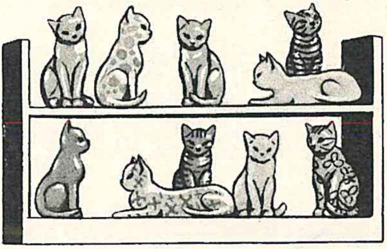
Read these problems and say the answers to the questions. The pictures will help you.



$\begin{array}{r}2\\\overline{)12}\end{array}$

1. John has 12 tops. He keeps them in a box with 6 tops in each row. How many rows of tops are there?

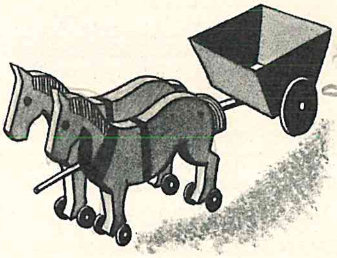
How many 6's in 12?



$\begin{array}{r}2\\5\overline{)10}\end{array}$

2. Helen keeps 10 china kittens on shelves with 5 kittens on each shelf. How many shelves does she use?

How many 5's in 10?



$\begin{array}{r}1\\2\overline{)2}\end{array}$

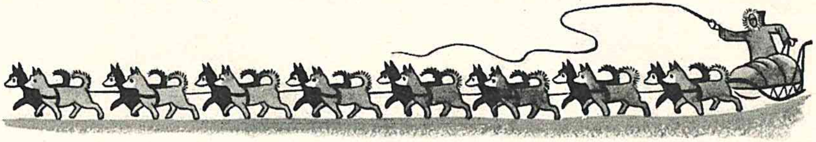
3. Billy has 2 toy horses. He needs 2 horses for each wagon. He has enough horses for how many wagons?

How many 2's in 2?

4. Sixteen dogs were pulling a sled. The dogs were fastened to the sled in pairs of 2. How many pairs of dogs were there?

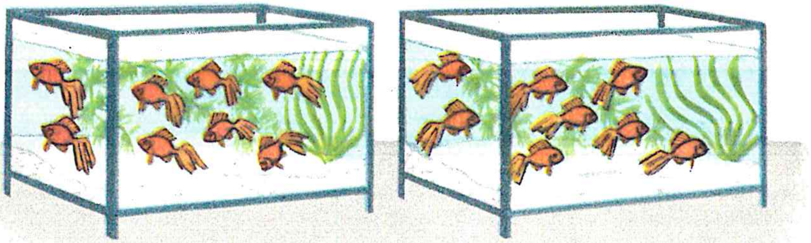
$\begin{array}{r}8\\2\overline{)16}\end{array}$

How many 2's are there in 16?

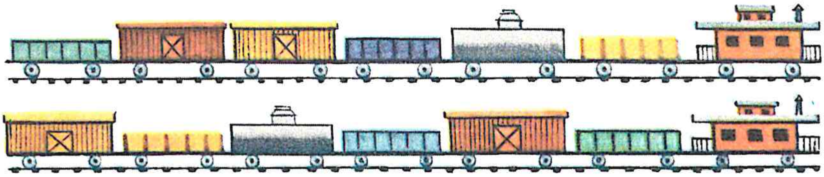


$\begin{array}{r}2\\8\overline{)16}\end{array}$

5. Mary has 16 goldfish. She keeps 8 goldfish in each bowl. How many bowls does she need? How many 8's in 16?



6. Alan had 14 toy cars. He made trains with 7 cars in each train. How many trains did he make? How many 7's in 14? $\begin{array}{r}2\\\overline{)14}\end{array}$



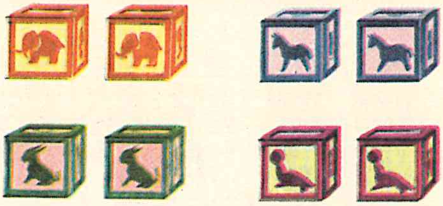
7. In a pet shop, 18 birds are in cages. There are 9 birds in each cage. How many cages are there? How many 9's in 18?

$\begin{array}{r}2\\9\overline{)18}\end{array}$

LEARNING WHAT DIVISION MEANS

1. Miss Martin said, "John, put these 8 blocks into groups of 2."

John took 2 of the blocks and put them on the table. Then he took 2 more blocks, and another 2, and the last 2, and laid them beside the others.



John said, "There are four 2's in 8."

Miss Martin said, "You put the 8 blocks into 4 groups of 2 each. That is one way to **divide** 8 by 2. A shorter way is to remember that there are four 2's in 8. This is called **dividing** 8 by 2."

2. This is a division example: ⟶ $\begin{array}{r}2\\3\overline{)6}\end{array}$

It asks the question, "How many 3's in 6?" It tells us to divide 6 by 3. We write the answer, 2, above the 6. There are two 3's in 6.

$$\begin{array}{r}2\\3\overline{)6}\end{array}$$

3. This division example asks, "How many 2's in 12?" We write the 6 above the last figure in 12 to show that we are dividing 12, and not 1, by 2.

$$\begin{array}{r}6\\2\overline{)12}\end{array}$$

▶ The example with its answer is a **division fact.** We read it, "There are six 2's in 12."

4. Read these division facts:

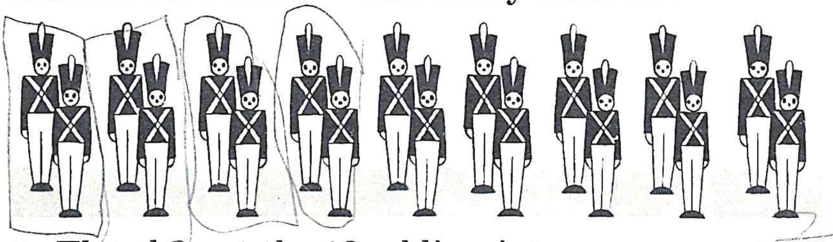
$$\begin{array}{r}2\\4\overline{)8}\end{array}\qquad\begin{array}{r}7\\2\overline{)14}\end{array}$$

PLAYING WITH TOY SOLDIERS

Billy was playing with his toy soldiers. Look at the pictures and answer the questions.

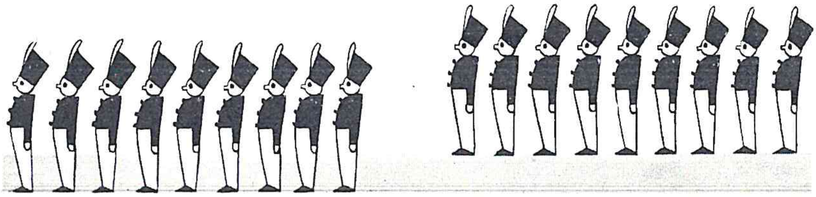
1. He put 18 soldiers into groups with 2 in each group. How many groups of soldiers were there? How many 2's in 18?

$$\begin{array}{r}9\\2\overline{)18}\end{array}$$



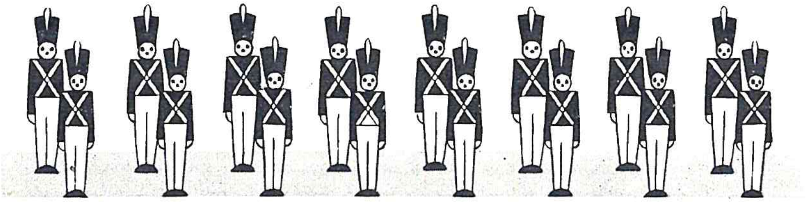
2. Then he put the 18 soldiers into groups with 9 in each group. How many groups of soldiers were there? How many 9's in 18?

$$\begin{array}{r}2\\9\overline{)18}\end{array}$$



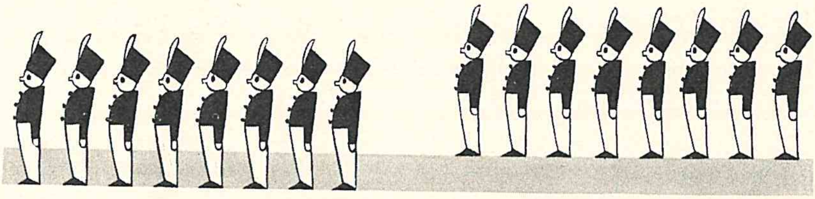
3. He put 16 soldiers into groups with 2 in each group. How many groups of soldiers were there? How many 2's in 16?

$$2\overline{)16}$$



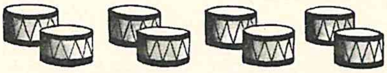
4. Next, he put the 16 soldiers into groups with 8 in each group. How many groups of soldiers were there? How many 8's in 16?

$8\overline{)16}$



You know that we find how many 2's there are in a number when we divide the number by 2. We find how many 3's there are in a number when we divide by 3. We find how many 4's there are in a number when we divide by 4.

We do it this way:
There are four 2's in 8.
There are two 4's in 8.



5. Make pictures to show what these facts mean.

A. $\begin{array}{r}5\\2\overline{)10}\end{array}$ $\begin{array}{r}2\\5\overline{)10}\end{array}$

B. $\begin{array}{r}4\\2\overline{)8}\end{array}$ $\begin{array}{r}2\\4\overline{)8}\end{array}$

C. $\begin{array}{r}8\\2\overline{)16}\end{array}$ $\begin{array}{r}2\\8\overline{)16}\end{array}$

D. $\begin{array}{r}9\\2\overline{)18}\end{array}$ $\begin{array}{r}2\\9\overline{)18}\end{array}$

E. $\begin{array}{r}7\\2\overline{)14}\end{array}$ $\begin{array}{r}2\\7\overline{)14}\end{array}$

F. $\begin{array}{r}1\\2\overline{)2}\end{array}$

G. $\begin{array}{r}6\\2\overline{)12}\end{array}$ $\begin{array}{r}2\\6\overline{)12}\end{array}$

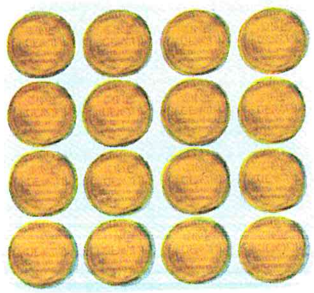
H. $\begin{array}{r}3\\2\overline{)6}\end{array}$ $\begin{array}{r}2\\3\overline{)6}\end{array}$

I. $\begin{array}{r}2\\2\overline{)4}\end{array}$

6. Copy the examples without their answers. Then close your book and write the answers. Learn the facts that you do not know.

FINDING HOW MANY WE CAN BUY

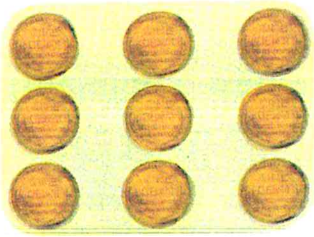
We use division to find how many things we can buy with our money when we know how much one thing costs. Read each problem and find the answer to the question that is asked. The pictures will help you.



1. Mary has 16¢ to spend for oranges. Each orange costs 4¢. How many oranges can Mary buy for her money?

How much money does Mary have? How much does each orange cost?

How many 4's in 16?



2. James has 9¢ to spend for stamps. Each stamp costs 3¢. How many stamps can he buy with his money?

How many 3's in 9?

3. Alan has 25¢. He wants to buy candy bars that cost 5¢ each. How many can he buy?

How many 5's in 25?

Copy and learn the division facts below.

$$\begin{array}{r} 4 \\ 4\overline{)16} \end{array} \qquad \begin{array}{r} 3 \\ 3\overline{)9} \end{array} \qquad \begin{array}{r} 5 \\ 5\overline{)25} \end{array}$$

PLAYING STORE

The children are playing store. Read these problems and find the answers to the questions.

1. Helen put 25 tops in boxes. If she put 5 tops in each box, how many boxes did she use?

2. Mary had 16 jacks to put in bags. She put 8 jacks in each bag. How many bags did she use?

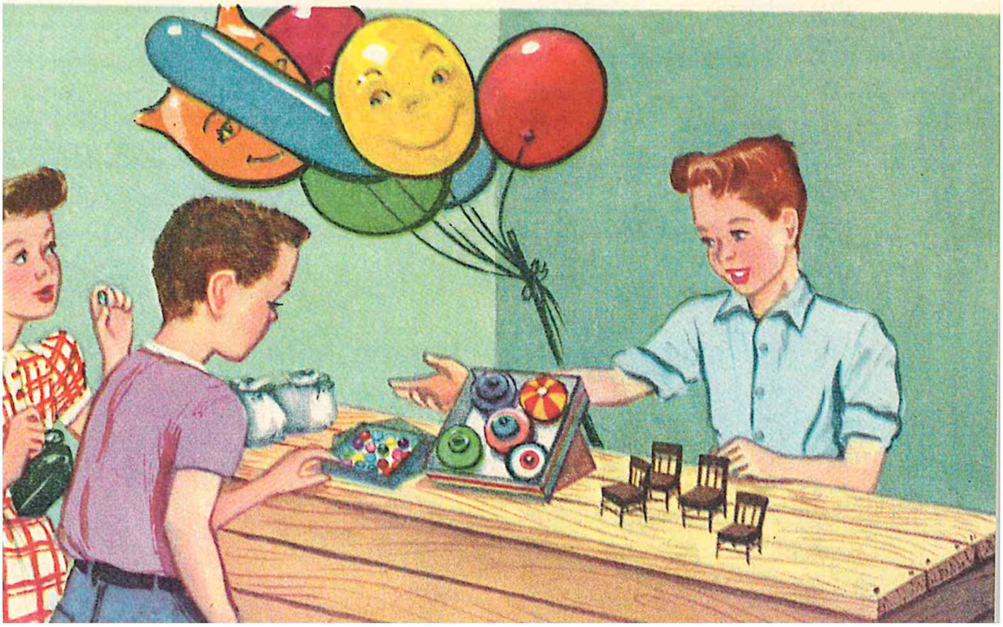
3. Tom had 14 balloons to tie to sticks. If he tied 7 to each stick, how many sticks did he use?

4. There are 16 toy chairs to sell. Four chairs make a set. How many sets of chairs are there?

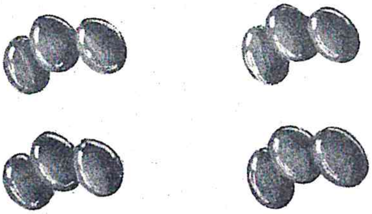
5. John has 18¢ to spend at the store. Each marble costs 2¢. How many can John buy?

6. Billy has 9¢ to spend for balloons. One balloon costs 3¢. How many can Billy buy?

7. Judy has 18¢ to spend. A bag of jacks sells for 9¢. How many bags of jacks can Judy buy?

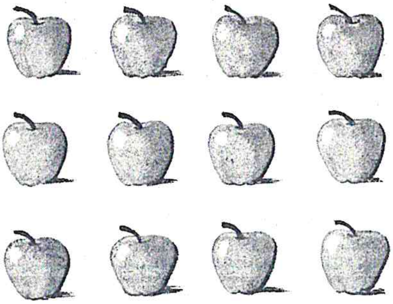


DIVIDING THINGS INTO EQUAL GROUPS



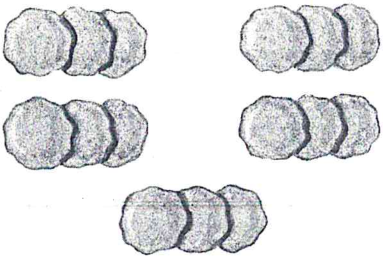
1. The boys put 12 plums into groups with 3 in each group. How many groups of plums did they have?

How many 3's in 12?



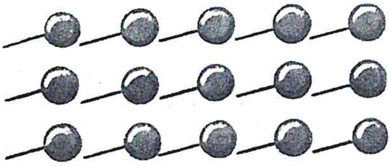
2. The girls divided 12 apples into groups. They put 4 in each group. How many groups did they have?

How many 4's in 12?



3. The boys divided 15 cookies into groups. They put 3 in each group. How many groups of cookies did they make?

How many 3's in 15?



4. The girls put 15 pieces of candy into groups with 5 pieces in each group. How many groups were there?

How many 5's in 15?

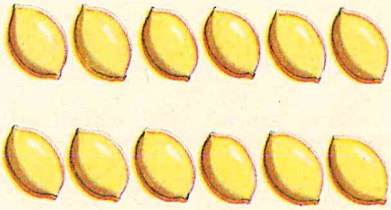
Copy and learn the division facts below.

$$\begin{array}{r} 4 \\ 3\overline{)12} \end{array} \qquad \begin{array}{r} 3 \\ 4\overline{)12} \end{array} \qquad\qquad \begin{array}{r} 5 \\ 3\overline{)15} \end{array} \qquad \begin{array}{r} 3 \\ 5\overline{)15} \end{array}$$

DIVIDING THINGS EQUALLY

We know how to divide one thing into two, three, or four equal parts. We can also divide groups of things into equal parts. We divide to find how many things there are in each part.

1. Judy had a dozen lemons. She used one-half of them to make lemonade for her party. Find how many lemons she used.



Look at the picture. How many lemons are there? They are divided into two groups. How many lemons are in each group? What is one-half of 12 lemons?

▶ We divide by 2 to find one-half of a number.

This is the way we write one-half: ⟶ $\frac{1}{2}$

We write the example this way:

$\frac{1}{2}$ of 12 is 6; or $\frac{1}{2}$ of 12 = 6; or $2\overline{)12}$ with quotient 6

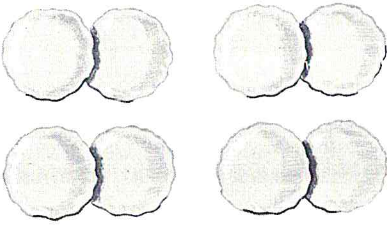
2. Judy said, "There are 8 of us. We will eat at two small tables. One-half of us will sit at each table. How many will sit at each table?"

What is $\frac{1}{2}$ of 8? Divide 8 by 2.

3. Judy had 16 cookies. She put one-half of them on each of 2 tables. How many cookies were on each table?

What is $\frac{1}{2}$ of 16? Divide 16 by 2.

4. There were 8 cookies on each table. Four girls sat at each table. How many cookies were there for each girl?



Look at the picture. The 8 cookies are divided into 4 groups. How many cookies are in each group? What is one-fourth of 8?

▶ We divide by 4 to find one-fourth of a number.

This is the way we write one-fourth: $\longrightarrow \frac{1}{4}$

We write the example this way:

$\frac{1}{4}$ of 8 is 2; or $\frac{1}{4}$ of 8 = 2; or $\begin{array}{r} 2 \\ 4\overline{)8} \end{array}$

5. Judy put 16 pieces of candy on each table for 4 girls. How many pieces of candy were there for each girl? What is $\frac{1}{4}$ of 16? Divide 16 by 4.

6. Judy had 12 candles to put in 4 candle holders. How many candles could she put in each holder? What is $\frac{1}{4}$ of 12?

▶ We divide to find how many things there are in each group. If we have 5 equal groups, we divide by 5. If we have 8 groups, we divide by 8. We divide by the number of groups we have.

Say the answers to the examples below.

	A	B	C
7.	$\frac{1}{2}$ of 4 = ?	$\frac{1}{4}$ of 12 = ?	$\frac{1}{2}$ of 18 = ?
8.	$\frac{1}{2}$ of 10 = ?	$\frac{1}{4}$ of 16 = ?	$\frac{1}{2}$ of 14 = ?

FINDING WHAT ONE THING COSTS

Sometimes we buy several things that are just alike. We divide to find what each one costs.

1. James said, "I paid 15 cents for 3 balloons." How much did he pay for each balloon?

Look at the picture. The 15 cents are in 3 groups. How many cents are in each group? What is one-third of 15 cents?

▶ We divide by 3 to find one-third of a number.

This is the way we write one-third: ⟶ $\frac{1}{3}$

We write the example this way:

$\frac{1}{3}$ of 15 is 5; or $\frac{1}{3}$ of 15 = 5; or $3\overline{)15}^{\,5}$

2. Mary bought 3 oranges for 12¢. What did each orange cost?

What is $\frac{1}{3}$ of 12¢? Divide 12 by 3.

3. Tom paid 9¢ for 3 pencils. How much did he pay for each pencil?

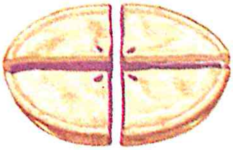
What is $\frac{1}{3}$ of 9¢?

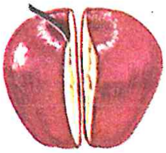
▶ When we know the cost of several things that are just alike, we divide to find the cost of each one. If we have 7 things, we divide by 7. If we have 9 things, we divide by 9. We divide by the number of things we have.

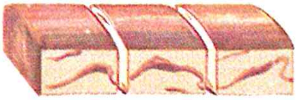
USING FRACTIONS

1. The pie, the apple, and the cake are cut into equal parts. Equal parts are called **fractions.** Halves, fourths, and thirds are fractions.

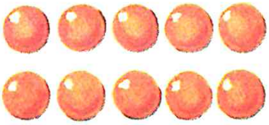
What part of the whole is each piece of pie? each piece of apple? each piece of cake?



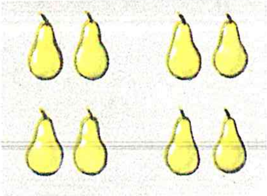




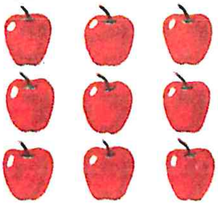
In the pictures below, groups of things are divided into equal parts, or fractions.



2. How many oranges are there? How many groups of oranges are there? How many oranges are in each group? What is $\frac{1}{2}$ of 10 oranges?



3. How many pears are there? How many groups of pears are there? How many are in each group? What is $\frac{1}{4}$ of 8 pears?



4. How many apples are there? How many groups of apples are there? How many are in each group? What is $\frac{1}{3}$ of 9 apples?

5. Tell what belongs in each blank below.

A. $\frac{1}{2}$ of 18 boys is __?__.

B. $\frac{1}{3}$ of 12 marbles is __?__.

C. $\frac{1}{4}$ of 16 cents is __?__.

D. $\frac{1}{3}$ of 15 tops is __?__.

USING WHAT YOU HAVE LEARNED

Read these problems carefully. Think what each question asks. Then answer the question. Make a picture for the problem if you need help.

1. Billy keeps his 16 books on 2 shelves. The same number of books are on each shelf. How many books are on each shelf?

2. Ann paid 15¢ for 5 little dishes. How much did each dish cost?

3. Ten boys want to play a game of ball. They need 5 boys for each team. How many teams will they have?

4. Alan has 14¢. He wants to buy wood for a kite. Each piece costs 7¢. How many pieces can Alan buy?

5. James has 25¢ to spend. If he pays 5¢ for each ice-cream cone, how many can he buy?

6. Twelve girls are having a tea party. They have 4 tables. How many girls can sit at each table?

7. Jane divided 12 cookies equally among 3 girls. How many cookies did each girl have?

8. Mary has 4 dolls and 2 beds. How many dolls are there for each bed?

KEEPING IN PRACTICE

Fold a paper under these examples. Do as the signs tell you to do and write the answers.

	A	B	C	D	E	F
1.	345 +502	$2.30 ×2	797 −450	$9.80 −6.38	41 ×2	733 −270
2.	320 ×3	$4.07 +4.94	41 ×3	866 −539	479 +117	$2.40 +6.94
3.	944 −395	$9.85 −3.05	$4.03 +4.60	$1.40 ×2	800 −541	62 ×2
4.	$5.53 +3.64	40 ×4	$9.00 −1.97	657 −279	$.20 ×8	639 +264
5.	933 −604	$9.13 −2.63	101 ×9	$5.16 +3.56	$.30 ×5	702 −428

Copy the examples below. Write the answers.

6. 2)10 3)9 5)15 2)18 3)12 2)14

7. 8)16 4)12 5)25 2)8 2)16 6)12

8. 3)15 9)18 4)16 7)14 2)12 5)10

DECIDING WHEN TO DIVIDE AND WHEN TO MULTIPLY

Think about each problem carefully before you decide what to do. It is easy to decide when to multiply and when to divide.

1. Jane has 15¢ to spend for pencils. Each pencil costs 5¢. How many can Jane buy?

The problem tells how much one pencil costs and how much money Jane has. It asks how many pencils she can buy. So you know that you must find how many 5's there are in 15.

2. Mary bought 3 pencils at 5¢ each. How much did she pay for all of them?

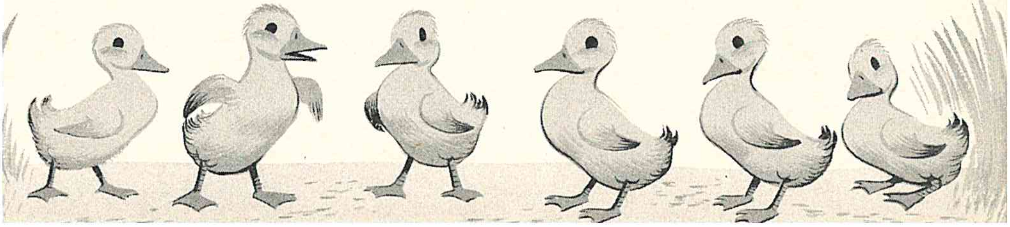
The problem tells how much one pencil cost and how many Mary bought. It asks how much she paid for all of them. So you know you must find how much three 5's are.

3. There are 8 children in each row. How many children are in 2 rows?

4. Eighteen children are playing in two equal groups. How many are in each group?

5. Fifteen girls are jumping rope. Three girls are in each group. How many groups are there?

6. Tom bought 6 baby ducks for 20¢ each. How much did he pay for all of the ducks? Is your answer cents or dollars and cents?



DIVIDING LARGER NUMBERS

1. Judy said, "We can put the science books in the bookcase in the science corner. We have 69 books to put on 3 shelves. How many shall we put on each shelf?"

Miss Martin said, "We will put one-third of the books on each shelf. To find one-third of 69 we divide 69 by 3."

She wrote the example this way: ⟶ She said, "We divide 6 by 3. We write the 2 exactly above the 6 to show that we are dividing 6 by 3.

$$\begin{array}{r} 2 \\ 3\overline{)69} \end{array}$$

"Now we divide 9 by 3. We write the 3 exactly above the 9."

$$\begin{array}{r} 23 \\ 3\overline{)69} \end{array}$$

Judy said, "We can put 23 books on each shelf."

2. Alan said, "We can put the 64 stones in equal groups on these 2 tables. How many stones should we put on each table?"

Write the example this way: ——→ $2\overline{)64}$
Begin at the left to divide. Divide 6 by 2. Think 3. Where should you write the 3 in the answer?

Then divide the 4 by the 2. Think 2. Where should you write the 2 in the answer? How many stones should they put on each table?

3. Helen said, "We have 48 pictures of birds. We can put the same number on each of 2 walls. How many pictures should we put on each wall?"

Write the example this way: ——→ $2\overline{)48}$
Where should you begin to divide? Where should you write each figure in the answer? If you need help, look at the example on page 308.

4. Billy said, "We can put the 24 shells in 2 equal groups in the science corner. How many shells should we put in each group?"

Copy the examples below and find the answers.

	A	B	C	D	E	F
5.	$2\overline{)26}$	$2\overline{)84}$	$2\overline{)68}$	$2\overline{)62}$	$2\overline{)46}$	$4\overline{)88}$
6.	$3\overline{)96}$	$2\overline{)28}$	$3\overline{)66}$	$2\overline{)86}$	$2\overline{)22}$	$3\overline{)99}$

KNOWING WHEN TO DIVIDE

In some of these problems you will divide to find the answers to the questions. In others, you will add. In still others, you will multiply. Before you decide what to do to find the answer, think what the problem is about. Also think what the question asks.

Read each problem carefully and decide what to do to find the answer to the question. Then solve the problem.

1. It costs 5¢ to ride on the merry-go-round. John has 25¢. How many times can he ride?

2. The merry-go-round has 4 seats and 4 children can ride in each seat. How many children can ride in all of the seats?

3. Mary spent 15¢ for rides and 5¢ for an ice-cream cone. How much did she spend in all?

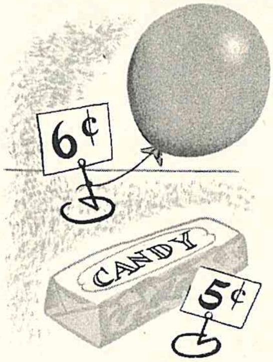
4. The merry-go-round has 8 groups of horses. Each group has 2 horses in it. How many horses are there altogether?

5. The man said that 64 children wanted to ride. They had to go in 2 equal groups. How many children were in each group?

6. Jane said, "I see 14 children riding in the seats and 16 riding on horses."

How many children were riding?

DIVIDING A NUMBER BY ONE JUST LIKE IT



1. Susan has 5¢. Candy bars cost 5¢ each. How many candy bars can Susan buy?

How many 5's are there in 5?

2. Judy has 6¢. Balloons cost 6¢ each. How many balloons can Judy buy?

How many 6's are there in 6?

3. Helen has 3 eggs. She needs 3 eggs to make each cake. How many cakes can she make?

How many 3's are there in 3?

4. Ribbon for doll hats costs 8¢ a yard. How many yards can Mary buy for 8¢?

How many 8's are there in 8?

5. Mother has 4 oranges. She uses 4 oranges each day. How many days will the oranges last?

How many 4's are there in 4?

6. There are 9 boys on the playground. They need 9 boys for a ball team. How many teams can they have?

How many 9's are there in 9?

▶ When we divide a number by another number like it, the answer is 1.

Read the facts below.

$$\begin{array}{r}1\\2\overline{)2}\end{array}\quad\begin{array}{r}1\\5\overline{)5}\end{array}\quad\begin{array}{r}1\\3\overline{)3}\end{array}\quad\begin{array}{r}1\\8\overline{)8}\end{array}\quad\begin{array}{r}1\\6\overline{)6}\end{array}\quad\begin{array}{r}1\\4\overline{)4}\end{array}\quad\begin{array}{r}1\\7\overline{)7}\end{array}\quad\begin{array}{r}1\\9\overline{)9}\end{array}$$

LEARNING MORE ABOUT DIVISION

1. At the fair, the man sold 128 tickets for the last 4 rides on the merry-go-round. The same number of children rode each time. How many children rode each time?

$$\begin{array}{r} 32 \\ 4\overline{)128} \end{array}$$

Write the example this way: ⟶ Begin at the left to divide. The 1 is smaller than the 4, so we divide 12 by 4. Think 3 and write the 3 exactly above the 2, to show that you divided 12 by 4.

Divide 8 by 4. Think 2. Write the 2 exactly above the 8. How many children rode each time?

2. Copy this example and divide. The 1 is smaller than the 2, so we divide the 10 by 2. Think 5. Where should you write the 5 in the answer?

$$2\overline{)104}$$

Then divide the 4 by the 2. How many 2's are there in 4? Think 2. Where should you write the 2 in the answer? Read the answer.

3. Write this example and divide. What should you divide first? Now divide 3 by 3. What is the answer?

$$3\overline{)153}$$

PRACTICING DIVISION

Copy these examples and divide. Study the examples on page 312 if you need help.

	A	B	C	D	E
1.	$2\overline{)142}$	$3\overline{)126}$	$2\overline{)164}$	$4\overline{)168}$	$2\overline{)106}$
2.	$3\overline{)123}$	$6\overline{)126}$	$4\overline{)128}$	$5\overline{)255}$	$8\overline{)168}$
3.	$4\overline{)124}$	$7\overline{)147}$	$2\overline{)188}$	$5\overline{)155}$	$2\overline{)126}$
4.	$9\overline{)189}$	$4\overline{)164}$	$3\overline{)159}$	$2\overline{)128}$	$5\overline{)105}$

LEARNING A NEW SIGN

This sign ($\div$) tells us to divide. It is called the **division sign.** We use it this way: $14 \div 2$. We read the example, "14 divided by 2," or "divide 14 by 2." The division sign also tells us to think, "How many 2's in 14?"

Say the answers for these examples.

	A	B	C	D	E
1.	$25 \div 5$	$12 \div 4$	$16 \div 4$	$12 \div 3$	$15 \div 3$
2.	$10 \div 5$	$15 \div 5$	$12 \div 6$	$16 \div 8$	$18 \div 9$

This example, $3\overline{)156}$, may be written $156 \div 3$. This example, $104 \div 2$, means divide 104 by 2.

PROBLEMS ABOUT TOYS

Each problem below asks a question. Read the question carefully. It is easy to decide when to divide and when to subtract.

1. The storekeeper put 36 jacks into 3 bags with the same number in each bag. How many jacks did he put in each bag?

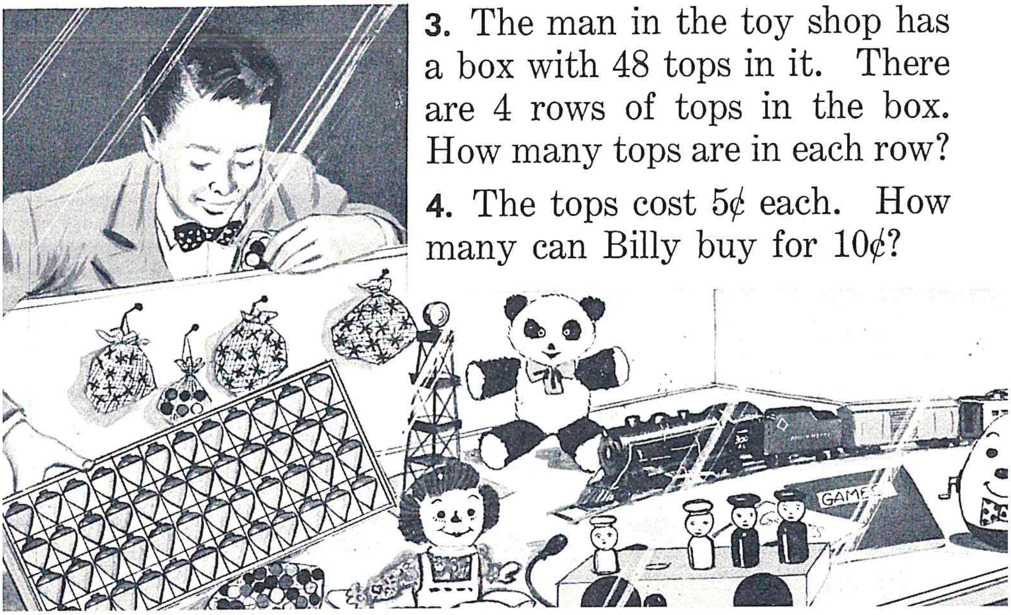
The problem tells how many jacks there were and how many bags they were in. It asks how many jacks were in each bag. So you must divide 36 by 3.

2. A large bag had 36 marbles in it. A small bag had 6 marbles in it. How many more marbles were in the large bag?

The problem tells how many marbles were in each bag. It asks how many more were in the large bag. It really asks, "36 is how many more than 6?"

3. The man in the toy shop has a box with 48 tops in it. There are 4 rows of tops in the box. How many tops are in each row?

4. The tops cost 5¢ each. How many can Billy buy for 10¢?



MORE DIVISION

1. Judy had 60¢ to spend for two gifts. How much could she spend for each gift?

Write the example this way: ⟶ The 6 is larger than the 2, so we can divide 6 by 2. Think 3. Write the 3 exactly over the 6.

$$\begin{array}{r} 30\text{¢} \\ 2\overline{)60\text{¢}} \end{array}$$

The zero shows that there is nothing in that place to divide. So we write a zero in the answer. Read the answer. If we left the zero out of the answer, would it be a sensible answer?

The problem asks us to find how much Judy can spend for each gift, so the answer means 30¢.

2. Tom had 80 stamps to paste on 4 pages of his stamp book. How many did he have for each page?

Write the example this way: ⟶ First divide 8 by 4. Think 2. Where should you write the 2?

$$4\overline{)80}$$

The zero shows that there is nothing in that place to divide. So we write 0 in the answer. Where should you write the zero? How many stamps did Tom have for each page?

3. Copy these examples and divide. Remember, zero in ones' place in each of these numbers shows that there is nothing in that place to divide. Write 0 in ones' place in the answer.

$2\overline{)80}$ $4\overline{)40}$ $3\overline{)90}$ $6\overline{)60}$ $8\overline{)80}$ $9\overline{)90}$

DIVIDING NUMBERS WITH ZERO IN ONES' PLACE

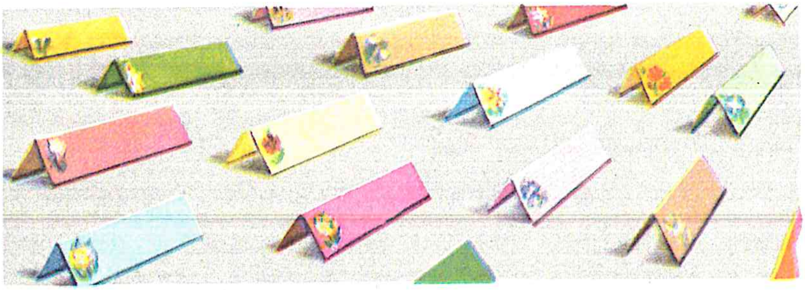
1. The girls made place cards for a Mother's Day party. Jane said, "We need 180 place cards. We can make 9 from each sheet of colored paper. How many sheets of paper do we need?"

$$\begin{array}{r} 20 \\ 9\overline{)180} \end{array}$$

Mary wrote the example and divided, this way: She said, "There are two 9's in 18." She wrote the 2 exactly above the 8 in 18.

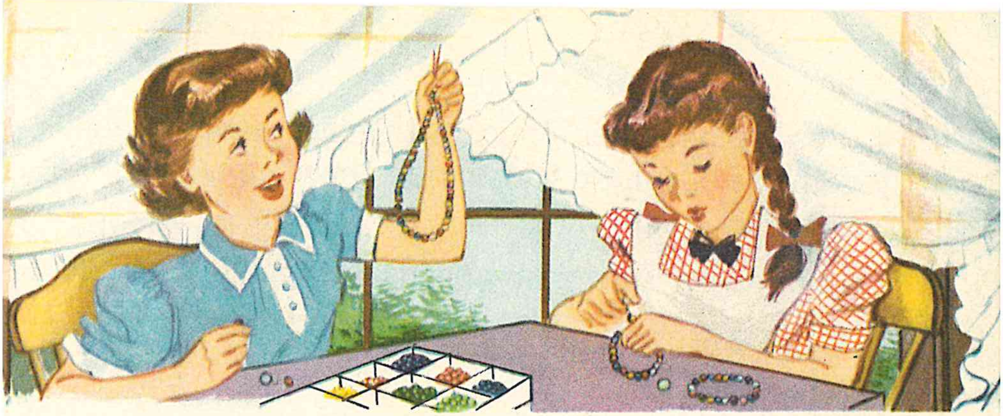
Then she said, "There is nothing in ones' place to divide." She wrote 0 in the answer exactly over the zero in the example.

Mary said, "We need 20 sheets of colored paper."



Copy the examples below and divide. What should you remember about the zero?

	A	B	C	D	E
2.	$2\overline{)160}$	$7\overline{)140}$	$5\overline{)150}$	$6\overline{)120}$	$3\overline{)120}$
3.	$5\overline{)250}$	$8\overline{)160}$	$2\overline{)140}$	$4\overline{)160}$	$2\overline{)180}$



STRINGING BEADS

Helen and Susan are stringing beads to make necklaces and bracelets. Read the problems and find the answers to the questions.

1. Helen used 100 beads. She said, "I made 2 necklaces just alike with my beads."

How many beads did she use for each necklace?

Copy the example and divide. The 1 is smaller than the 2. So you must divide 10 by 2. Think 5, and write the 5 exactly above the 0 in the 10.

$$\begin{array}{r} 5 \\ 2\overline{)100} \end{array}$$

The 0 in ones' place shows that there is nothing in that place to divide. What should you write in the answer?

How many beads did Helen use for each necklace?

2. Susan used 100 beads. She said, "I have made 5 bracelets just alike with my beads."

How many beads did she use for each bracelet?

3. They made 4 more bracelets with 120 beads. How many beads did they use for each bracelet?

4. Susan said, "Let's put all the rest of our beads together. Then we can divide them equally."

They had 240 beads. They divided them into 2 equal piles. How many beads did each girl have?

$$\begin{array}{r} 120 \\ 2\overline{)240} \end{array}$$

Write the example and divide: First divide the 2 by 2. Think 1, and write the 1 exactly above the 2.

Divide the 4 by 2. Think 2, and write the 2 exactly above the 4.

What does the 0 in ones' place show? Why do we write 0 in the answer? Answer the question in the problem.

$$3\overline{)\$6.93}$$

5. Copy this example and divide, just as you always do. Divide 6 by 3. What should you write over the 6?

Now divide the 9 by 3. What should you write in the answer over the 9?

Then divide the 3 by 3. What should you write in the answer? Where will you put the dollar sign and the point to show that the answer means dollars and cents? Read the answer.

Copy the examples below and divide.

	A	B	C	D	E
6.	$2\overline{)640}$	$3\overline{)\$9.60}$	$8\overline{)880}$	$2\overline{)860}$	$6\overline{)\$6.60}$
7.	$2\overline{)468}$	$7\overline{)\$7.70}$	$4\overline{)848}$	$3\overline{)696}$	$2\overline{)\$4.62}$

MORE DIVISION WITH ZEROS

1. Copy this example. Divide 8 by 2. Think, there are four 2's in 8. Write the 4 above the 8.

$$\begin{array}{r} 403 \\ 2\overline{)806} \end{array}$$

The zero in tens' place shows that there is nothing in that place to divide. Write 0 in the answer, above the 0.

Now think, there are three 2's in 6. Write the 3 in the answer, above the 6.

▶ We write a figure in the answer each time we use a figure in the number we are dividing.

2. Copy this example and divide. What should you write above the 6?

$$3\overline{)600}$$

What does the 0 in tens' place show? What should you write in tens' place in the answer?

What does the 0 in ones' place show? What should you write in ones' place in the answer? Now read the answer.

Copy the examples below and divide. Remember to write a figure in the answer each time you use a figure in the number you divide. What should you remember about the zeros?

	A	B	C	D	E
3.	$3\overline{)603}$	$2\overline{)\$6.08}$	$4\overline{)804}$	$9\overline{)909}$	$3\overline{)\$3.06}$
4.	$8\overline{)800}$	$2\overline{)\$8.00}$	$7\overline{)700}$	$3\overline{)900}$	$6\overline{)\$6.00}$

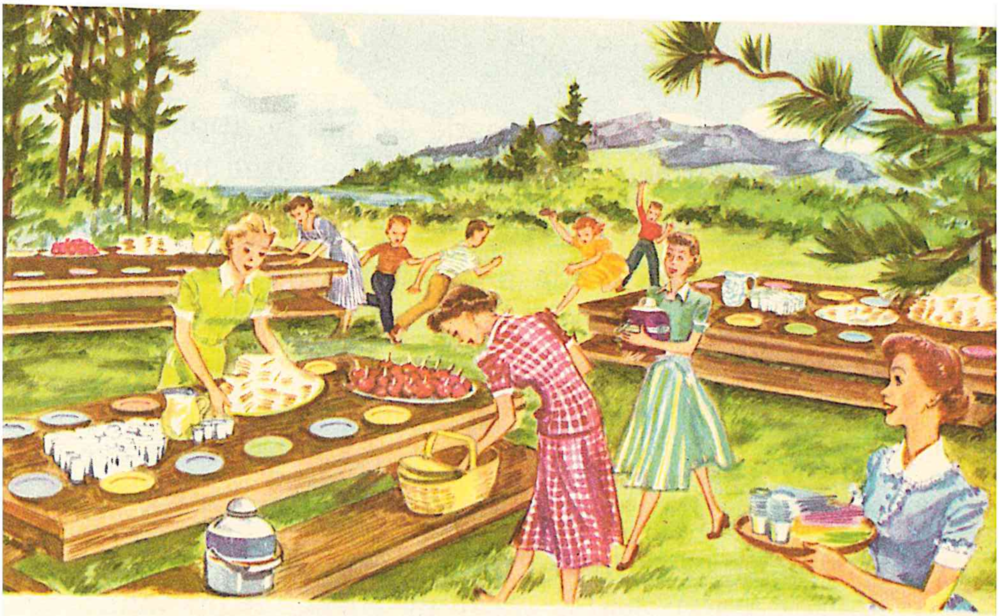
MAKING SURE OF DIVISION

Say the answers for these examples. If there are any examples that you cannot do, leave them and do the others. Then turn to the page of division facts in the back of your book. Copy and learn the facts that you do not know.

	A	B	C	D	E
1.	2 ÷ 2	18 ÷ 9	16 ÷ 2	15 ÷ 3	6 ÷ 2
2.	12 ÷ 2	9 ÷ 9	16 ÷ 4	6 ÷ 6	4 ÷ 2
3.	16 ÷ 8	15 ÷ 5	3 ÷ 3	12 ÷ 6	10 ÷ 2
4.	8 ÷ 4	18 ÷ 2	14 ÷ 7	8 ÷ 8	9 ÷ 3
5.	12 ÷ 3	5 ÷ 5	12 ÷ 4	14 ÷ 2	4 ÷ 4
6.	7 ÷ 7	8 ÷ 2	10 ÷ 5	25 ÷ 5	6 ÷ 3

Copy the examples below and divide. If you miss any, turn to the pages given at the ends of the rows. Learn how to do the examples you miss.

	A	B	C	D	E	
7.	$\frac{1}{2}$ of 6	$\frac{1}{2}$ of 10	$\frac{1}{3}$ of 9	$\frac{1}{4}$ of 12	$\frac{1}{3}$ of 6	**301** **302** **303**
8.	$2\overline{)82}$	$3\overline{)69}$	$2\overline{)108}$	$3\overline{)156}$	$2\overline{)168}$	**308** **312**
9.	$7\overline{)70}$	$3\overline{)60}$	$2\overline{)120}$	$9\overline{)180}$	$3\overline{)150}$	**315** **316**
10.	$3\overline{)\$9.30}$	$2\overline{)684}$	$5\overline{)550}$	$4\overline{)\$4.88}$	$8\overline{)888}$	**318**
11.	$6\overline{)\$6.06}$	$9\overline{)900}$	$3\overline{)609}$	$2\overline{)\$6.00}$	$4\overline{)808}$	**319**



THE PICNIC

The third grade had a picnic in the park. Miss Martin and some of the mothers went too. Read the problems and write the answers to the questions about the picnic.

In some of the problems you will divide to answer the questions. In others you will add, or multiply, or subtract. You can decide what to do to find the answer by thinking what the problem is about and what the question asks.

1. Miss Martin, 5 mothers, and 36 children went to the park. How many went in all?

2. They made 3 gallons of lemonade for the picnic. The lemons and sugar cost 42¢ for each gallon. How much did all of the lemonade cost?

3. Two of the mothers made 42 candy apples for the picnic. Each mother made the same number of apples. How many did each make?

4. The mothers made 4 sandwiches for each of the 42 people at the picnic. How many sandwiches did they make?

5. They had 90 meat sandwiches and 78 peanut butter sandwiches. How many more meat sandwiches did they have than peanut butter?

6. The 36 children all wanted to swing. They made 3 equal groups and took turns. How many were in each group?

7. Twelve children were using 6 swings. The same number were in each swing. How many were in each swing?

8. Of the 36 children, 24 played a game called "Base." How many children did not play?

9. The 24 children made two equal teams to play Base. How many were on each team?

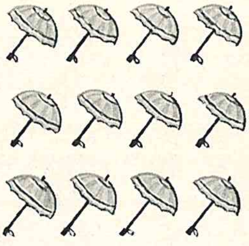
10. Four children played the beanbag game and three played the dart game. How many played these two games?

11. At lunch time, 12 of the 42 people ate at one table. The others ate at other tables. How many people ate at the other tables?

12. Fifteen people ate at one table and 15 at another. How many were at these two tables?

USING MULTIPLICATION AND DIVISION

1. We can answer these four questions about this picture:



How many are three 4's? $3 \times 4 = ?$
How many are four 3's? $4 \times 3 = ?$
How many 3's in 12? $12 \div 3 = ?$
How many 4's in 12? $12 \div 4 = ?$

2. These groups of examples use multiplication and division facts that you have learned. The same three numbers are used in each group of examples. Say the answers.

A. $\begin{array}{r}8\\ \times 2\\ \hline\end{array}$ $\begin{array}{r}2\\ \times 8\\ \hline\end{array}$ $8\overline{)16}$ $2\overline{)16}$

D. $\begin{array}{r}4\\ \times 4\\ \hline\end{array}$ $4\overline{)16}$

B. $\begin{array}{r}5\\ \times 3\\ \hline\end{array}$ $\begin{array}{r}3\\ \times 5\\ \hline\end{array}$ $5\overline{)15}$ $3\overline{)15}$

E. $\begin{array}{r}5\\ \times 5\\ \hline\end{array}$ $5\overline{)25}$

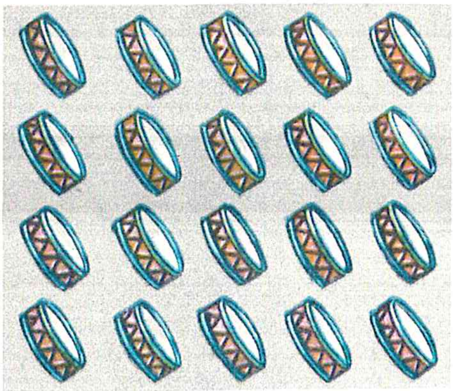
C. $\begin{array}{r}6\\ \times 2\\ \hline\end{array}$ $\begin{array}{r}2\\ \times 6\\ \hline\end{array}$ $6\overline{)12}$ $2\overline{)12}$

F. $\begin{array}{r}3\\ \times 3\\ \hline\end{array}$ $3\overline{)9}$

Say the answers for each row of examples below.

	A	B	C	D
3.	4×2	2×4	$8 \div 2$	$8 \div 4$
4.	3×2	2×3	$6 \div 2$	$6 \div 3$
5.	2×2	$4 \div 2$	8×1	$8 \div 8$
6.	5×2	2×5	$10 \div 2$	$10 \div 5$
7.	7×2	2×7	$14 \div 2$	$14 \div 7$
8.	9×2	2×9	$18 \div 2$	$18 \div 9$

LEARNING NEW FACTS TOGETHER



1. There are 5 drums in each row. How many rows are there?

2. How many are four 5's?

3. Look at the columns of drums. There are 4 drums in each column.

4. How many columns of drums are there?

5. How many are five 4's?

6. The 20 drums in the picture are divided into rows with 5 drums in each row. How many rows are there? How many 5's in 20?

7. The 20 drums are also divided into columns with 4 drums in each column. How many columns are there? How many 4's in 20?

8. The picture shows two multiplication facts. It shows that four 5's are 20 and five 4's are 20.

9. The picture also shows two division facts. It shows that there are five 4's in 20 and that there are four 5's in 20.

Copy and learn these multiplication and division facts:

$$\begin{array}{r} 5 \\ \times 4 \\ \hline 20 \end{array} \qquad \begin{array}{r} 4 \\ \times 5 \\ \hline 20 \end{array} \qquad\qquad \begin{array}{r} 4 \\ 5\overline{)20} \end{array} \qquad \begin{array}{r} 5 \\ 4\overline{)20} \end{array}$$

USING MULTIPLICATION AND DIVISION

1. The zoo built 4 large cages for 200 birds. If the same number of birds are put in each cage, how many will there be in each cage?

The problem tells how many birds the zoo has, and how many cages were built for them. It asks how many birds there will be in each cage. So you must divide 200 by 4.

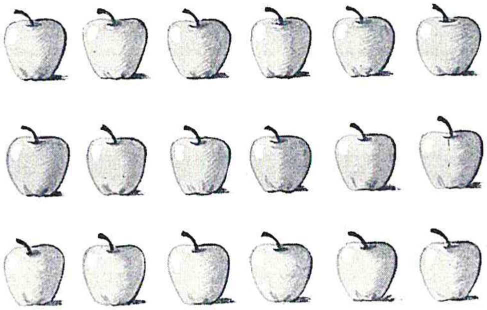
2. The birdman put 50 birds in each of 4 cages. How many birds did he put in all of the cages?

How many birds are in each cage? How many cages are there? You must find how many four 50's are. How many birds are there in all?

3. Mr. Smith has hired 5 buses to take the children to the zoo. He says that 40 children can ride in each bus. How many children can go?

4. Mr. Smith says that 200 children are to go to the zoo in buses. He has 5 buses. How many children will ride in each bus?

MORE ABOUT MULTIPLYING AND DIVIDING



1. How many apples are in each row?
2. How many rows are there?
3. How many apples are there in all of the rows?
4. How many are three 6's? How many are six 3's?
5. How many 6's in 18? How many 3's in 18?

Copy and learn these facts:

$$\begin{array}{r}6\\ \times 3\\ \hline 18\end{array} \qquad \begin{array}{r}3\\ \times 6\\ \hline 18\end{array} \qquad \begin{array}{r}3\\ 6\overline{)18}\end{array} \qquad \begin{array}{r}6\\ 3\overline{)18}\end{array}$$

MORE DIVIDING WITH MONEY

1. Mary saw twin dolls in the toy shop. The two dolls cost \$1.60. How much does one doll cost?

$$\begin{array}{r}\$\ .80\\ 2\overline{)\$1.60}\end{array}$$

Copy the example and divide. The 1 is smaller than the 2, so we divide 16 by 2 and write 8 in the answer over the 6. Why do we write zero in the answer over the zero? Why do we use the dollar sign and the point? Read the answer.

2. Copy these examples and divide.

$$4\overline{)\$2.04} \qquad 2\overline{)\$1.02} \qquad 6\overline{)\$1.80} \qquad 3\overline{)\$1.80}$$

USING SIGNS IN ARITHMETIC

Do you know all of the signs we have learned in arithmetic? Watch the signs and say the answers for the examples in Rows **1** through **4.**

	A	B	C	D	E
1.	$9 \div 9$	$11 - 9$	7×2	$18 \div 3$	4×3
2.	$12 - 7$	$20 \div 5$	$18 \div 6$	3×6	$16 \div 4$
3.	$20 \div 4$	6×3	$12 \div 3$	$6 + 5$	5×4
4.	$11 - 7$	$6 \div 6$	4×5	$12 \div 4$	$7 \div 7$

Copy these examples and write the answers.

	A	B	C	D
5.	3×63	$82 + 27$	$186 \div 6$	$149 - 57$
6.	$168 \div 8$	$117 - 97$	7×21	$183 \div 3$
7.	8×21	$25 + 90$	$180 \div 9$	6×31
8.	$147 \div 7$	6×21	9×21	$126 - 46$

Copy the examples below and write the answers.

	A	B	C	D	E
9.	$\begin{array}{r}\$3.02\\ \times 2\\ \hline\end{array}$	$\begin{array}{r}\$9.05\\ -4.79\\ \hline\end{array}$	$3\overline{)\$9.66}$	$\begin{array}{r}\$7.58\\ +1.80\\ \hline\end{array}$	$5\overline{)\$1.05}$
10.	$\begin{array}{r}\$9.28\\ -3.29\\ \hline\end{array}$	$\begin{array}{r}\$3.31\\ \times 3\\ \hline\end{array}$	$4\overline{)\$1.68}$	$\begin{array}{r}\$.71\\ \times 2\\ \hline\end{array}$	$2\overline{)\$6.80}$
11.	$\begin{array}{r}\$6.06\\ +2.67\\ \hline\end{array}$	$\begin{array}{r}\$.51\\ \times 5\\ \hline\end{array}$	$\begin{array}{r}\$9.00\\ -6.90\\ \hline\end{array}$	$\begin{array}{r}\$4.43\\ +4.99\\ \hline\end{array}$	$2\overline{)\$8.46}$

BUYING BOOKS

Mary, Jane, and James are looking at the books. They would like to buy some. These problems tell about the books. Solve them.

1. Mary has found 3 books that she likes. The books cost 60¢ each. How much do the three books cost altogether? Is the answer cents or dollars and cents?

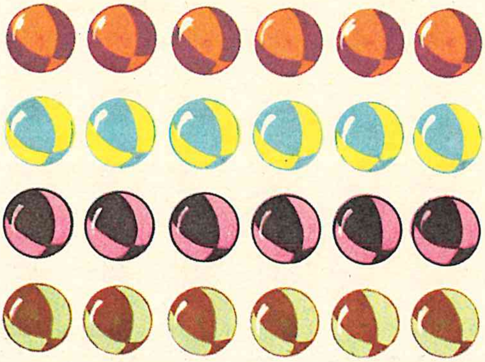
2. Jane wants a book that costs $1.85. She said, "I have $3.21 in my bank. How much will I have left if I buy the book?"

3. James said, "In this box there are 3 books about cowboys. The three books cost $1.20. How much does each book cost?"

4. Mary wants one book that costs $1.90 and another that costs 85¢. How much do both books cost?

5. Jane found 6 picture books in a box. They cost $1.80. How much does each book cost?

LEARNING MORE NEW FACTS



1. How many balls are there in each row?

2. How many rows are there?

3. How many balls are there in all of the rows?

4. How many are four 6's? How many are six 4's?

5. How many 6's in 24? How many 4's in 24?

Copy and learn these facts:

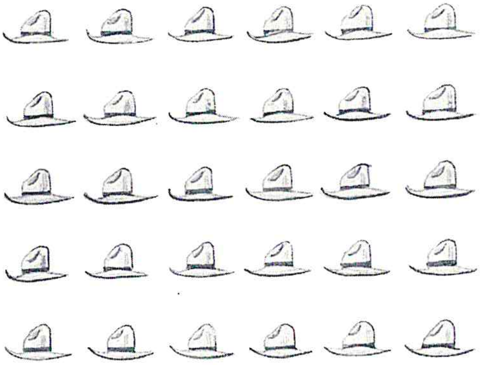
$$\begin{array}{r}6\\\times4\\\hline24\end{array}\qquad\begin{array}{r}4\\\times6\\\hline24\end{array}\qquad\qquad\begin{array}{r}4\\6\overline{)24}\end{array}\qquad\begin{array}{r}6\\4\overline{)24}\end{array}$$

USING WHAT YOU HAVE LEARNED

Copy these examples and write the answers.

	A	B	C	D	E
1.	$\begin{array}{r}30\\\times6\\\hline\end{array}$	$\begin{array}{r}\$.62\\\times4\\\hline\end{array}$	$\begin{array}{r}\$.40\\\times5\\\hline\end{array}$	$4\overline{)204}$	$3\overline{)\$1.86}$
2.	$\begin{array}{r}40\\\times6\\\hline\end{array}$	$\begin{array}{r}\$.51\\\times4\\\hline\end{array}$	$\begin{array}{r}\$.62\\\times3\\\hline\end{array}$	$5\overline{)205}$	$6\overline{)\$2.46}$
3.	$\begin{array}{r}61\\\times4\\\hline\end{array}$	$\begin{array}{r}\$.41\\\times6\\\hline\end{array}$	$\begin{array}{r}\$.41\\\times5\\\hline\end{array}$	$4\overline{)208}$	$4\overline{)\$2.48}$

MORE MULTIPLICATION AND DIVISION FACTS



1. How many hats are there in each row?

2. How many rows are there?

3. How many hats are there in all of the rows?

4. How many are five 6's? How many are six 5's?

5. How many 6's in 30? How many 5's in 30?

Copy and learn these facts:

$$\begin{array}{r} 6 \\ \times 5 \\ \hline 30 \end{array} \qquad \begin{array}{r} 5 \\ \times 6 \\ \hline 30 \end{array} \qquad \begin{array}{r} 5 \\ 6\overline{)30} \end{array} \qquad \begin{array}{r} 6 \\ 5\overline{)30} \end{array}$$

Answer the questions in the problems below.

6. Jane bought 5 yards of ribbon for 6¢ a yard. How much did she spend for all of the ribbon? Is the answer cents or dollars and cents?

7. Susan bought 6 chairs for her playhouse at 50¢ each. How much did she spend for the chairs? Is your answer cents or dollars and cents?

8. John paid 30¢ for 6 large crayons. How much did he pay for each crayon?

9. Mr. Wilson has 300 baby ducks. He wants to put them in 5 pens, with the same number in each pen. How many will he have in each pen?

KEEPING IN PRACTICE

Fold a paper under these examples and multiply.

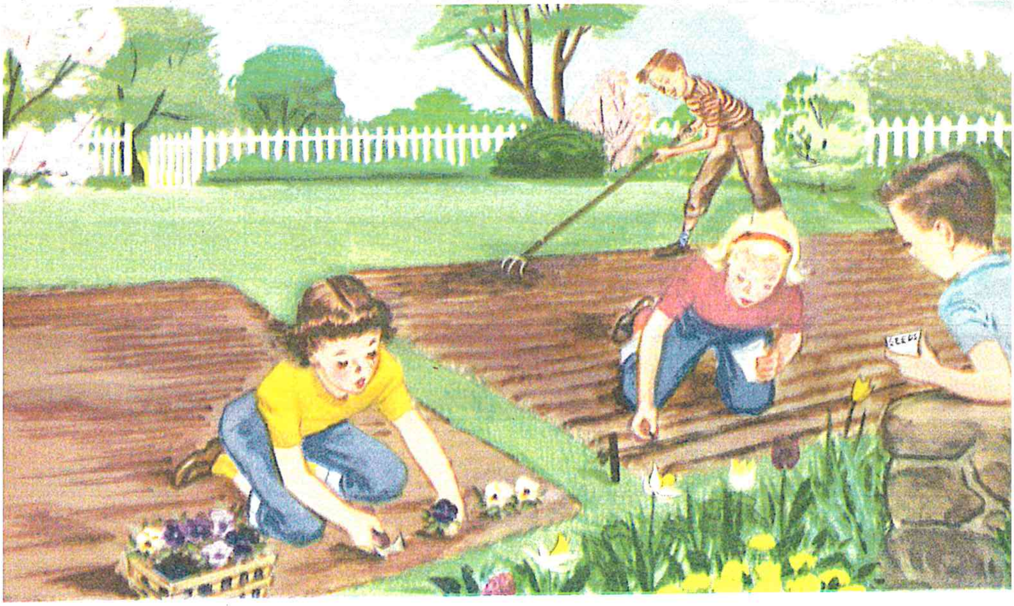
	A	B	C	D	E	F
1.	60 4	110 6	52 2	111 7	61 5	\$3.01 3
2.	31 5	432 2	61 2	101 5	83 2	\$ .40 5
3.	60 3	101 8	52 4	110 9	51 6	\$2.02 4

Copy these examples and divide.

	A	B	C	D	E
4.	$2\overline{)186}$	$4\overline{)244}$	$5\overline{)305}$	$2\overline{)408}$	$3\overline{)\$1.89}$
5.	$7\overline{)700}$	$6\overline{)306}$	$9\overline{)990}$	$2\overline{)148}$	$3\overline{)\$3.09}$
6.	$6\overline{)240}$	$3\overline{)129}$	$8\overline{)808}$	$4\overline{)408}$	$2\overline{)\$6.42}$

Copy the examples below and find the answers.

	A	B	C	D
7.	4×50	$\$2.59 + \$3.93$	$723 - 328$	$\$3.00 \div 6$
8.	$\$8.53 - \$6.59$	$2 \times \$.64$	$240 \div 4$	$4 \times \$1.02$



MAKING A GARDEN

Mr. and Mrs. Arnold let the children help make a garden. These problems tell what they planted and how much the seeds and plants cost.

Think carefully about each problem. Then decide how you will find the answer to the question.

1. Mr. Arnold bought 9 packages of seeds for 10¢ a package. How much did all the seeds cost?

2. He bought 11 large tomato plants at 5¢ each. How much did he pay for all of them?

3. He bought 12 smaller tomato plants at 3¢ each. How much did all of these plants cost?

4. Mrs. Arnold bought 5 dozen strawberry plants at 20¢ a dozen. How much did all of the plants cost?

5. Helen brought 2 boxes of pansy plants for the flower bed. Each box had 9 plants in it. How many plants were there in all?

6. Jane brought 12 violet plants from the woods. She put the same number of plants in each of 2 rows. How many did she put in each row?

7. Tom counted the small onions that they were to plant. He put them in 8 piles with 10 in each pile. How many onions were there?

8. Mr. Arnold said, "We spent $.90 for seeds, $.91 for tomato plants, and $1.00 for strawberry plants. How much money did we spend altogether?"

9. Mrs. Arnold planted the cabbage seeds in a box. When the plants were large enough to set out, Tom said, "There are 111 plants in the box. But we need only 30 for the garden."

How many more cabbage plants did they have than they needed?

10. Helen put the 18 pansy plants in 3 rows with the same number of plants in each row. How many plants did she put in each row?

11. Tom and James planted the 80 onions in 8 equal rows. How many were in each row?

12. They planted the 30 cabbage plants in 3 equal rows. How many were in each row?

13. James said, "We set out 23 tomato plants. Four of them died."

How many tomato plants lived?

USING FRACTIONS IN MEASURES

Sometimes we use large measures and sometimes small measures. We may use the yard, the foot, or the inch to measure some things. We measure time by the hour and the minute. We measure milk by the pint, the quart, or the gallon. We measure some other things by the dozen.

1. A dozen is 12 things. How many is $\frac{1}{2}$ dozen? $\frac{1}{4}$ dozen? $\frac{1}{3}$ dozen?

2. A yard is 36 inches. We can find $\frac{1}{3}$ of a yard by dividing 36 by 3. $36 \div 3$ is 12. You know that 12 inches is 1 foot. A foot is what part of a yard?

3. You know that 60 minutes equal 1 hour. How many minutes are there in $\frac{1}{2}$ hour?

4. You know that 100 cents equal 1 dollar. Find the number of cents in $\frac{1}{2}$ dollar.

5. You know that 4 quarts equal 1 gallon. How many quarts equal $\frac{1}{2}$ gallon? How many quarts equal $\frac{1}{4}$ gallon?

6. You know that 2 pints equal 1 quart. How many pints equal $\frac{1}{2}$ quart?

▶ Remember:

1 foot $= \frac{1}{3}$ yard
1 pint $= \frac{1}{2}$ quart
1 quart $= \frac{1}{4}$ gallon
2 quarts $= \frac{1}{2}$ gallon

$6 = \frac{1}{2}$ dozen
$4 = \frac{1}{3}$ dozen
$3 = \frac{1}{4}$ dozen
30 minutes $= \frac{1}{2}$ hour

MAKING SURE OF MULTIPLICATION

Fold a paper under these examples and multiply. If you miss any, turn to the page of multiplication facts in the back of your book. Copy and learn the facts you do not know.

	A	B	C	D	E	F	G	H	I
1.	4 2	6 3	2 5	4 6	2 9	5 3	2 4	4 5	7 2
2.	5 5	6 4	5 2	3 3	5 6	8 2	4 3	2 6	5 4
3.	3 6	9 2	3 4	2 8	6 5	4 4	6 2	3 5	2 7

Copy the examples below and multiply. If you miss any, turn to the pages given at the ends of the rows. Learn to do the examples you miss.

	A	B	C	D	E	
4.	12¢ 4	11 7	$.41 5	31 4	$.61 3	**279** **281**
5.	20¢ 3	80 2	$.60 5	20 7	$.50 5	**283**
6.	234 2	203 3	$4.30 2	$1.00 8	111 9	**285**

MAKING SURE OF DIVISION

Fold a paper above these examples and divide. If you miss any, turn to the page of division facts in the back of your book. Copy and learn the facts you do not know.

	A	B	C	D	E	F	G
1.	$6\overline{)12}$	$4\overline{)24}$	$5\overline{)15}$	$2\overline{)18}$	$5\overline{)30}$	$6\overline{)18}$	$4\overline{)12}$
2.	$5\overline{)25}$	$9\overline{)18}$	$3\overline{)15}$	$7\overline{)14}$	$4\overline{)20}$	$3\overline{)18}$	$2\overline{)16}$
3.	$4\overline{)16}$	$6\overline{)30}$	$8\overline{)16}$	$6\overline{)24}$	$3\overline{)12}$	$5\overline{)20}$	$2\overline{)14}$

Copy the examples below and divide. If you miss any, turn to the pages given at the ends of the rows. Learn to do the examples you miss.

	A	B	C	D	E	
4.	$3\overline{)93}$	$6\overline{)66}$	$2\overline{)122}$	$4\overline{)128}$	$5\overline{)105}$	**308** **312**
5.	$2\overline{)40}$	$3\overline{)120}$	$6\overline{)240}$	$6\overline{)180}$	$2\overline{)100}$	**316**
6.	$2\overline{)846}$	$3\overline{)963}$	$5\overline{)505}$	$4\overline{)800}$	$7\overline{)707}$	**317** **318**
7.	$8\overline{)\$.88}$	$2\overline{)\$1.84}$	$3\overline{)\$3.03}$	$4\overline{)\$4.80}$	$9\overline{)\$9.99}$	**326**

CHOOSING THE RIGHT WORD

Read each sentence and choose the right word for the blank. Write the word on your paper beside the number of the sentence. If you need help, find it on the page given at the end of the sentence.

1. The answer is called a remainder when we _?_. (multiply, divide, subtract, add) **(24)**

2. The answer is called a sum when we _?_. (multiply, divide, subtract, add) **(12)**

3. This sign ($-$) tells us to _?_. (divide, multiply, subtract, add) **(26)**

4. This sign ($+$) tells us to _?_. (divide, multiply, subtract, add) **(19)**

5. This sign ($\div$) tells us to _?_. (divide, multiply, subtract, add) **(313)**

6. This sign ($\times$) tells us to _?_. (divide, multiply, subtract, add) **(269)**

7. The fraction $\frac{1}{4}$ is _?_. (one-half, one-fourth, one-third) **(302)**

8. The fraction $\frac{1}{3}$ is _?_. (one-half, one-fourth, one-third) **(303)**

9. The fraction $\frac{1}{2}$ is _?_. (one-half, one-fourth, one-third) **(301)**

10. To find $\frac{1}{3}$ of a number, we divide by _?_. (2, 3, 4) **(303)**

MAKING SURE OF ADDITION

Write on folded paper the sums for the examples in Rows **1** to **5**. Copy the examples in Row **6** and add. Check your work. If you miss any, turn to the pages listed at the ends of the rows. Practice the examples like those you miss.

	A	B	C	D	E	
1.	50 20 27	30 30 10	31 13 61	40 30 30	20 9 80	**133** **144**
2.	76 80 21	20 93 52	80 70 10 70	80 92 70 96	8 90 81 30	**173** **190**
3.	340 344	404 261	$5.30 1.58	575 410	$7.00 2.50	**206** **210**
4.	83 77 57	75 48 66	$3.56 1.09 3.18	519 69 302	$2.18 2.06 3.36	**224** **225** **228**
5.	394 260	581 386	$2.91 1.70 4.94	480 332 92	$3.70 .67 3.92	**248** **250**
6.	298 96 584	683 158 78	$4.77 1.49 .75	366 258 188	$4.56 .79 2.65	**256** **257**

MAKING SURE OF SUBTRACTION

Write on folded paper the remainders for the examples in Rows **1** to **5**. Copy the examples in Rows **6** and **7** and subtract. Check your work. If you miss any, turn to the pages listed at the ends of the rows. Practice the examples like those you miss.

	A	B	C	D	E	
1.	97 42	78 56	128 43	115 23	169 75	**89** **111**
2.	120 70	144 80	177 97	153 63	115 40	**135** **136** **137**
3.	106 90	108 48	$7.74 4.04	100 30	$4.50 2.50	**146** **216**
4.	94 49	73 56	182 83	134 96	991 357	**235** **237**
5.	760 322	918 609	$9.10 1.01	715 609	$6.90 3.66	**238** **240**
6.	738 290	740 450	$5.26 3.86	960 287	$6.26 4.68	**251** **259**
7.	903 195	406 209	$6.03 1.88	800 128	$5.00 1.75	**260** **261**

GOING FISHING

Father said, "James, this is a fine day to go fishing. Call the boys and get ready."

Read the story. Write on your paper the numbers 1 to 12. After each number write the name of the measure that belongs in the blank.

Father said, "We'll buy our food at the store."

They bought 1 $\frac{?}{(1)}$ oranges, $\frac{1}{2}$ $\frac{?}{(2)}$ of cheese, 1 $\frac{?}{(3)}$ of meat, $\frac{1}{2}$ $\frac{?}{(4)}$ of butter, 1 loaf of bread, and 6 $\frac{?}{(5)}$ of milk.

When they were in the store, Father said, "We need 3 more fishing poles and lines. These poles are about 8 $\frac{?}{(6)}$ long, and the lines are 4 $\frac{?}{(7)}$ long. I'll buy 3 of each."

Then they bought 5 $\frac{?}{(8)}$ of gasoline and 1 $\frac{?}{(9)}$ of oil. As they drove along they saw a sign which read, "Deep River 15 $\frac{?}{(10)}$."

Father said, "We should be on the river bank in about 30 $\frac{?}{(11)}$."

Tom caught the first fish. It was 8 $\frac{?}{(12)}$ long.

USING MEASURES IN PROBLEMS

Read these problems and decide what you should do to find the answers. Then solve the problems.

In some of the problems, you will need to know one thing that is not told in the problem. If you cannot think what it is, look on the page given at the end of the problem.

1. Mrs. Wilson had a dozen eggs. She broke 3 of them. How many eggs did she have left? **(93)**

2. Tom has a piece of wire 6 yards long. How many feet long is the wire? **(78)**

3. Jane made 2 gallons of lemonade. How many quarts of lemonade did she make? **(176)**

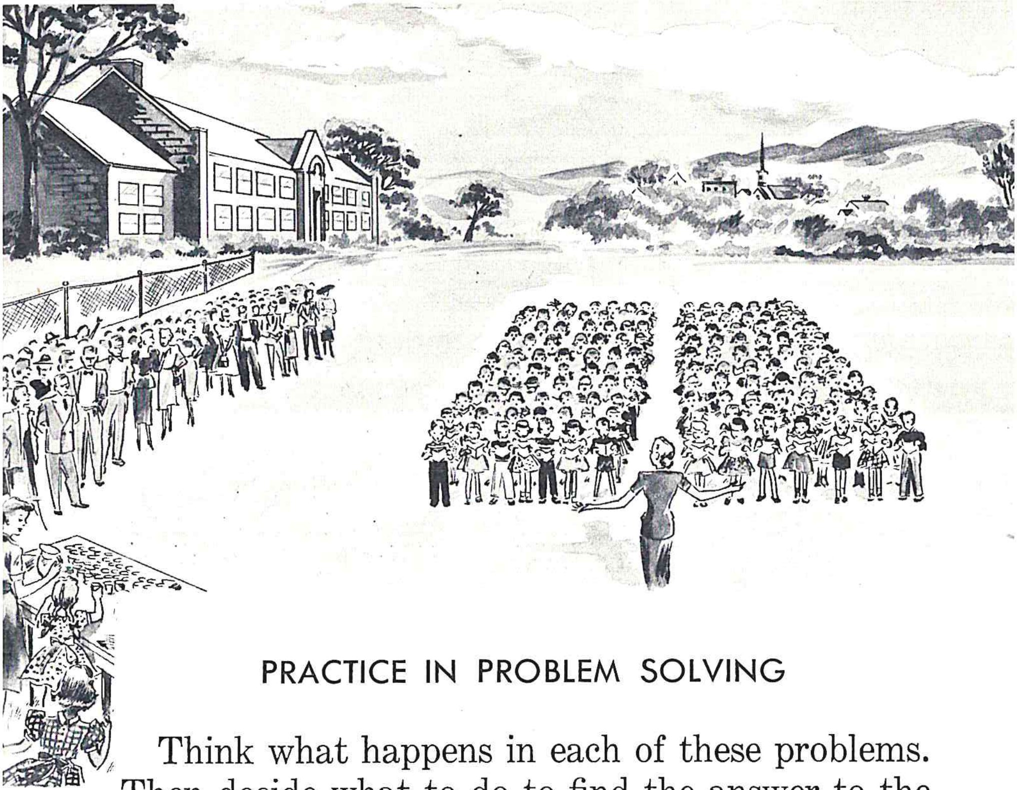
4. Alan has a string that is 36 feet long. How many yards long is it? **(78)**

5. Judy had a ribbon 24 inches long. She used $\frac{1}{4}$ of it for her doll. How many inches long was the piece that she used? **(302)**

6. John weighs 64 pounds and Billy weighs 58 pounds. What is the difference between their weights? **(193)**

7. Helen is 49 inches tall. How much taller is she than 1 yard? **(78)**

8. Mary bought 6 pounds of meat at 41¢ a pound. How much did she pay for the meat? **(281)**



PRACTICE IN PROBLEM SOLVING

Think what happens in each of these problems. Then decide what to do to find the answer to the question.

1. Washington School had a field day the last day of school. There were 305 boys and 246 girls who took part in the games. In all, how many children took part in the games?

2. Two groups of children sang songs. In each group there were 70 children. How many were in the two groups altogether?

3. Ninety children had a flag drill. They stood in rows with 9 in each row. How many rows of children were in the flag drill?

4. The girls had 3 races. In each race there were 40 girls. How many girls were in the races?

5. Seven groups of boys did the high jump. There were 10 boys in each group. How many boys did the high jump?

6. Four large rings of children played touch ball. Each ring had 61 children in it. How many children played this game?

7. Then 120 children had a peanut race. Seventy-one boys were in the race. How many girls were in it?

8. Two large groups played follow-the-leader. Each group had 61 children in it. How many children played this game?

9. The boys had an Indian drill. The 305 boys were in 5 groups, with an equal number in each group. How many were in each group?

10. The 246 girls carried daisy chains. They marched in 6 lines with an equal number in each line. How many girls were in each line?

11. Miss Martin asked 70 children to help pass lemonade and cookies. They worked in 7 equal groups. How many children were in each group?

INDEX

Addition
  carrying in, 221–225, 228–229, 248–250, 255–257
  checking, 72–73, 189
  column, 55–56, 95, 117, 120, 160, 169, 173, 187–188, 189, 190, 224
  easier facts, 6–22, 49–52
  fact defined, 18
  harder facts, 74–122
  higher-decade, 157–160, 169, 180–182, 184–188
  making sure of, 22, 45, 60, 90, 107, 125, 138, 150, 154, 183, 203, 220, 232, 263, 338
  meaning of, 8, 12
  of money, 20–21, 210–214, 221–222
  of one-place and two-place numbers, 120
  of three-place numbers, 206, 214, 225
  of two-place numbers, 79, 95, 104–105, 117, 142–144, 173, 190
  plus sign in, 19, 48
  sum in, 12
  zeros in, 130–133, 142–144, 209, 224, 229

Borrowing, 233–238, 240, 251, 258–261
  making sure of, 245, 264

Calendar, 100
Carrying, 221–225, 228–229, 248–250, 255–257
  making sure of, 232, 263
Column addition, 55–56, 95, 117, 120, 160, 169, 173, 187–188, 189, 190, 224
Comparison, 193
Counting
  by fives, 98
  by hundreds, 204
  by tens, 62, 64, 66

Difference, 192
Division
  easier facts, 290–298, 300, 311, 324, 326, 329, 330
  fact defined, 295
  making sure of, 320, 336
  meaning of, 295
  of money, 326
  of a number by one like it, 311
  of three-place numbers, 312
  of two-place numbers, 308–309
  of zero, 315–319
  sign, 313
Dozen, 93

Equal, 9, 28, 48

Foot, 78
Fractions
  defined, 304
  one-fourth, 69–71, 124, 195, 302
  one-half, 69–71, 97, 114, 124, 195, 301
  one-third, 246–247, 303
  with division, 301–302
  with measures, 334

Gallon, 176

Higher-decade addition
  in column addition, 160, 169, 187–189
  with bridging, 184–185
  without bridging, 157, 180–181, 184–185
Hour, 98
Hundred, 66–67

Inch, 77, 195

Making sure
  of addition, 22, 45, 60, 90, 107, 125, 138, 150, 154, 183, 203, 220, 232, 263, 338
  of borrowing, 245, 264

Making sure—*continued*
  of carrying, 232, 263
  of column addition, 60, 203
  of division, 320, 336
  of multiplication, 288, 335
  of numbers, 155
  of subtraction, 32, 44, 90, 107, 126, 138, 151, 154, 171, 202, 220, 245, 264, 339
  of telling time, 149
  of terms and signs, 32, 45
  of zeros, 138, 154
Measurement
  linear, 77–79, 194–195, 334
  liquid, 113–114, 176, 334
  time, 97–100
  weight, 124
Minus sign, 26, 48
Minute, 98
Money
  counting change, 167–168
  learning about, 20–21, 84–85, 164, 165–166, 167–168
  reading and writing dollars and cents, 165–166
Multiplication
  easier facts, 265–266, 268–269, 270–273, 280, 324, 326, 329
  fact defined, 269
  making sure of, 288, 335
  meaning of, 269
  of money, 281
  of three-place numbers, 285
  of two-place numbers, 278, 279, 281
  of zero, 282–283
  sign, 269

Numbers
  making sure of, 155
  meaning of, 61, 65, 67, 129, 204, 250
  ordinal, 4
  reading, 67, 68, 198, 205
  three-place, 66–68
  two-place, 61–65
  writing, 3, 68, 198, 205

Pint, 113
Plus sign, 19, 48
Pound, 124
Practice
  addition, 6–10, 12–22, 45, 49, 51, 52, 54, 57, 58, 60, 72, 73, 76, 79, 81, 83, 85, 86, 90, 91, 95, 101, 103, 105–107, 112, 115, 117–119, 122, 123, 125, 131, 133, 138, 140, 141, 144, 147, 150, 154, 157–159, 161, 163, 169, 170, 173, 175, 177, 179, 180–189, 191, 203, 207, 210, 211, 214, 220, 222–225, 229, 232, 245, 249, 250, 255–257, 263, 276, 289, 306, 327, 331, 338
  division, 302, 304, 306, 309, 313, 316, 318, 319, 320, 323, 326, 327, 329, 331, 336
  fractions, 70, 71, 246, 247, 302, 304, 320, 334
  measures, 77, 78, 96, 149, 194, 195, 334, 340, 341
  multiplication, 269, 271, 275, 276, 279, 281, 283, 285, 289, 306, 323, 327, 329, 331, 335
  problem solving, 11, 13, 17, 18, 21, 29, 36, 37, 38, 41, 42, 43, 46, 47, 50, 53, 59, 73, 75, 76, 79, 83, 85, 88, 94, 109, 111, 112, 127, 128, 134, 139, 140, 143, 148, 152, 153, 162, 163, 170, 172, 174–176, 178, 179, 192, 193, 196, 197, 200, 201, 208, 209, 213, 216, 218, 219, 226, 227, 230, 231, 239, 243, 244, 252, 253, 272, 274, 275, 277, 279, 284, 286, 287, 299, 305, 307, 310, 314, 317, 321, 322, 325, 328, 330, 332, 333, 341, 342, 343
  reading numbers, 61, 63, 67, 68, 101, 129, 155, 166, 198, 205
  subtraction, 26, 27, 28, 31, 32, 33, 36, 38, 41, 44, 49, 51, 52, 54, 72, 73, 76, 81, 83, 85, 86, 89, 90, 91, 95, 101, 103, 106, 107, 112, 115, 118, 119, 122, 123, 126, 135, 136, 137, 138,

Practice—*continued*
    140, 141, 146, 147, 151, 154, 171, 177, 192, 202, 217, 220, 234–238, 240–242, 245, 251, 254, 259, 261, 262, 264, 276, 289, 306, 327, 331, 339
  writing numbers, 3, 10, 68, 101, 155, 166, 198, 205
Problems
  addition in, 11, 17, 18, 21, 50, 75, 76, 83, 88, 94, 109, 127–128, 139–140, 152–153, 162–163, 170, 172, 174, 178–179, 187, 196, 197, 201, 207, 208, 209, 213, 218, 219, 226, 227, 239, 243, 244, 252, 253, 286, 287, 310, 321, 322, 328, 333, 342
  choosing operation in, 47, 53, 277, 284, 307, 321–322
  division in, 299, 305, 307, 310, 314, 317, 322, 325, 328, 330, 333, 341, 342, 343
  learning to solve, 11, 29, 43, 53, 148, 200–201, 230–231, 286–287
  measures in, 134, 145, 341
  multiplication in, 272, 274, 275, 277, 279, 284, 286, 287, 310, 321, 322, 325, 328, 330, 332, 333, 341, 342, 343
  sensible answers in, 196–197
  subtraction in, 29, 36, 37, 38, 41, 42, 43, 50, 73, 75, 76, 83, 88, 94, 109, 112, 128, 139–140, 152–153, 163, 172, 179, 192, 193, 196, 197, 200, 201, 208, 209, 216, 218, 219, 226, 227, 239, 243, 244, 252, 253, 286, 287, 322, 328, 333, 341, 343

Quart, 113, 176

Remainder, 24, 26

Sensible answers, 196–197
Subtraction
  borrowing in, 233–238, 240, 251, 258–261
  checking, 72, 241
  difference in, 192
  easier facts, 24–51
  fact defined, 26
  finding how many fewer, 33
  finding how many more, 31
  finding how many or how much more is needed, 42
  finding how much less, 36
  harder facts, 74, 80, 82, 87, 92, 102, 108, 110, 116, 121
  making sure of, 32, 44, 90, 107, 126, 138, 151, 154, 171, 202, 220, 245, 264, 339
  meaning of, 23
  minus sign in, 26, 48
  of money, 216, 240
  of three-place numbers, 215–217
  of two-place numbers, 89, 111–112
  remainder in, 24, 26
  zeros in, 135–137, 146, 238, 260–261
Sum, 12

Think and answer, 22, 81, 145, 156, 199, 220, 227, 231, 244, 262, 289
Thousand, 204
Time, measurement of, 97–100
  telling, 97–99, 149

Week, 100
Writing numbers, 3, 68, 198
  making sure of, 155

Yard, 78

Zero
  in addition, 130–133, 142–144, 209, 224, 229
  in division, 315–319
  in multiplication, 282–283
  in numbers, 65, 67, 129
  in subtraction, 135–137, 146, 238, 260–261
  in sums, 142–144, 224
  making sure of, 138, 154

MAKING SURE OF THE ADDITION FACTS

1	1	1	1	1	1	1	1	1	1
1	2	3	4	5	6	7	8	9	9
2	3	4	5	6	7	8	9	10	10
2	2	2	2	2	2	2	2	2	2
1	2	3	4	5	6	7	8	9	9
3	4	5	6	7	8	9	10	11	11
3	3	3	3	3	3	3	3	3	3
1	2	3	4	5	6	7	8	9	9
4	5	6	7	8	9	10	11	12	12
4	4	4	4	4	4	4	4	4	4
1	2	3	4	5	6	7	8	9	9
5	6	7	8	9	10	11	12	13	13
5	5	5	5	5	5	5	5	5	5
1	2	3	4	5	6	7	8	9	9
6	7	8	9	10	11	12	13	14	14
6	6	6	6	6	6	6	6	6	6
1	2	3	4	5	6	7	8	9	9
7	8	9	10	11	12	13	14	15	15
7	7	7	7	7	7	7	7	7	7
1	2	3	4	5	6	7	8	9	9
8	9	10	11	12	13	14	15	16	16
8	8	8	8	8	8	8	8	8	8
1	2	3	4	5	6	7	8	9	9
9	10	11	12	13	14	15	16	17	17
9	9	9	9	9	9	9	9	9	9
	2	3	4	5	6	7	8	9	9
	11	12	13	14	15	16	17	18	18

In addition examples, zero in a number shows that there is noth-
g in that place to add.

32	53	64	35	26	27	48	39	40
40	40	30	50	50	30	50	20	20
72	93	94	85	76	57	98	59	60
30	50	50	20	40	30	20	60	70
62	23	34	45	36	37	78	29	20
92	73	84	65	76	67	98	89	90

MAKING SURE OF THE SUBTRACTION FACTS

2	3	4	5	6	7	8	9	10
1	1	1	1	1	1	1	1	1
1	2	3	4	5	6	7	8	9
3	4	5	6	7	8	9	10	11
2	2	2	2	2	2	2	2	2
1	2	3	4	5	6	7	8	9
4	5	6	7	8	9	10	11	12
3	3	3	3	3	3	3	3	3
1	2	3	4	5	6	7	8	9
5	6	7	8	9	10	11	12	13
4	4	4	4	4	4	4	4	4
1	2	3	4	5	6	7	8	9
6	7	8	9	10	11	12	13	14
5	5	5	5	5	5	5	5	5
1	2	3	4	5	6	7	8	9
7	8	9	10	11	12	13	14	15
6	6	6	6	6	6	6	6	6
1	2	3	4	5	6	7	8	9
8	9	10	11	12	13	14	15	16
7	7	7	7	7	7	7	7	7
1	2	3	4	5	6	7	8	9
9	10	11	12	13	14	15	16	17
8	8	8	8	8	8	8	8	8
1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
9	9	9	9	9	9	9	9	9
1	2	3	4	5	6	7	8	9

A number subtracted from a number just like it leaves zero. In these examples zero in ones' place shows that there is nothing in that place to subtract.

41	83	75	97	69	72	74	56	98	80
21	43	45	57	49	40	20	20	60	20
20	40	30	40	20	32	54	36	38	60

4 5 6 7 8 9 10 11 12 13 14 15 —M— 59 58 57 56 55 54

MAKING SURE OF THE MULTIPLICATION FACTS

$$\begin{array}{r}1\\2\\\hline 2\end{array}\qquad\begin{array}{r}2\\2\\\hline 4\end{array}\qquad\begin{array}{r}3\\2\\\hline 6\end{array}\qquad\begin{array}{r}4\\2\\\hline 8\end{array}\qquad\begin{array}{r}5\\2\\\hline 10\end{array}\qquad\begin{array}{r}6\\2\\\hline 12\end{array}\qquad\begin{array}{r}7\\2\\\hline 14\end{array}\qquad\begin{array}{r}8\\2\\\hline 16\end{array}\qquad\begin{array}{r}9\\2\\\hline 18\end{array}$$

$$\begin{array}{r}1\\3\\\hline 3\end{array}\qquad\begin{array}{r}2\\3\\\hline 6\end{array}\qquad\begin{array}{r}3\\3\\\hline 9\end{array}\qquad\begin{array}{r}4\\3\\\hline 12\end{array}\qquad\begin{array}{r}5\\3\\\hline 15\end{array}\qquad\begin{array}{r}6\\3\\\hline 18\end{array}$$

$$\begin{array}{r}1\\4\\\hline 4\end{array}\qquad\begin{array}{r}2\\4\\\hline 8\end{array}\qquad\begin{array}{r}3\\4\\\hline 12\end{array}\qquad\begin{array}{r}4\\4\\\hline 16\end{array}\qquad\begin{array}{r}5\\4\\\hline 20\end{array}\qquad\begin{array}{r}6\\4\\\hline 24\end{array}$$

$$\begin{array}{r}1\\5\\\hline 5\end{array}\qquad\begin{array}{r}2\\5\\\hline 10\end{array}\qquad\begin{array}{r}3\\5\\\hline 15\end{array}\qquad\begin{array}{r}4\\5\\\hline 20\end{array}\qquad\begin{array}{r}5\\5\\\hline 25\end{array}\qquad\begin{array}{r}6\\5\\\hline 30\end{array}$$

$$\begin{array}{r}1\\6\\\hline 6\end{array}\qquad\begin{array}{r}2\\6\\\hline 12\end{array}\qquad\begin{array}{r}3\\6\\\hline 18\end{array}\qquad\begin{array}{r}4\\6\\\hline 24\end{array}\qquad\begin{array}{r}5\\6\\\hline 30\end{array}$$

$$\begin{array}{r}1\\7\\\hline 7\end{array}\qquad\begin{array}{r}2\\7\\\hline 14\end{array}$$

$$\begin{array}{r}1\\8\\\hline 8\end{array}\qquad\begin{array}{r}2\\8\\\hline 16\end{array}$$

$$\begin{array}{r}1\\9\\\hline 9\end{array}\qquad\begin{array}{r}2\\9\\\hline 18\end{array}$$

The zeros in each of these numbers show that there is nothing in that place to multiply.

$$\begin{array}{r}20\\2\\\hline 40\end{array}\qquad\begin{array}{r}30\\3\\\hline 90\end{array}\qquad\begin{array}{r}40\\4\\\hline 160\end{array}\qquad\begin{array}{r}40\\5\\\hline 200\end{array}\qquad\begin{array}{r}30\\6\\\hline 180\end{array}\qquad\begin{array}{r}20\\7\\\hline 140\end{array}$$

$$\begin{array}{r}10\\8\\\hline 80\end{array}\qquad\begin{array}{r}20\\9\\\hline 180\end{array}\qquad\begin{array}{r}400\\2\\\hline 800\end{array}\qquad\begin{array}{r}302\\3\\\hline 906\end{array}\qquad\begin{array}{r}201\\4\\\hline 804\end{array}\qquad\begin{array}{r}60\\5\\\hline 300\end{array}$$

MAKING SURE OF THE DIVISION FACTS

$$\begin{array}{rrrrrrrrr} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 2\overline{)2} & 2\overline{)4} & 2\overline{)6} & 2\overline{)8} & 2\overline{)10} & 2\overline{)12} & 2\overline{)14} & 2\overline{)16} & 2\overline{)18} \end{array}$$

$$\begin{array}{rrrrrr} 1 & 2 & 3 & 4 & 5 & 6 \\ 3\overline{)3} & 3\overline{)6} & 3\overline{)9} & 3\overline{)12} & 3\overline{)15} & 3\overline{)18} \end{array}$$

$$\begin{array}{rrrrrr} 1 & 2 & 3 & 4 & 5 & 6 \\ 4\overline{)4} & 4\overline{)8} & 4\overline{)12} & 4\overline{)16} & 4\overline{)20} & 4\overline{)24} \end{array}$$

$$\begin{array}{rrrrrr} 1 & 2 & 3 & 4 & 5 & 6 \\ 5\overline{)5} & 5\overline{)10} & 5\overline{)15} & 5\overline{)20} & 5\overline{)25} & 5\overline{)30} \end{array}$$

$$\begin{array}{rrrrr} 1 & 2 & 3 & 4 & 5 \\ 6\overline{)6} & 6\overline{)12} & 6\overline{)18} & 6\overline{)24} & 6\overline{)30} \end{array}$$

$$\begin{array}{rr} 1 & 2 \\ 7\overline{)7} & 7\overline{)14} \end{array}$$

$$\begin{array}{rr} 1 & 2 \\ 8\overline{)8} & 8\overline{)16} \end{array}$$

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the last page needed here.

$$\begin{array}{rr} 1 & 2 \\ 9\overline{)9} & 9\overline{)18} \end{array}$$

The zeros in each of these numbers show that there is nothing in that place to divide.

$$\begin{array}{rrrrrr} 40 & 30 & 20 & 10 & 10 & 10 \\ 2\overline{)80} & 3\overline{)90} & 4\overline{)80} & 5\overline{)50} & 6\overline{)60} & 7\overline{)70} \end{array}$$

$$\begin{array}{rrrrrr} 100 & 101 & 203 & 200 & 50 & 30 \\ 8\overline{)800} & 9\overline{)909} & 3\overline{)609} & 4\overline{)800} & 5\overline{)250} & 6\overline{)180} \end{array}$$